LANDICE
Crafting the World's Finest Treadmills

111 Canfield Avenue • Randolph, New Jersey 07869 • 1-800-LANDICE •
FAX 973-927-0630

ELLIPTIMILL E8/E9 HOME & COMMERCIAL SERVICE MANUAL

Version 3.2

For Technical Service Call 1-(800)-LANDICE

Service Manual Version

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How to Use this Manual

This manual is designed to help service technicians in the installation, maintenance, or repair of Landice E8 and E9 model elliptimill's. It covers terminology, installation, tools needed, diagnostics, removal and replacement of parts, warranty forms, Service Authorization forms, wiring schematics, and recommended maintenance. We are including an Index to further aid you in quickly finding what you need.

If you find a problem not covered in this manual please call 1-800-LANDICE to talk to a Landice Service Technician.

LANDICE
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Assignable Lifetime Home Elliptical Warranty

Landice, Inc. warrants all **HOME** ellipticals sold into residential settings:

ELLIPTICAL FRAME	**LIFETIME**
ELLIPTICAL PARTS	**LIFETIME**
WEAR ITEMS	**LIFETIME**
SERVICE LABOR	**1 YEAR**

To ensure the quality of our service and meet the requirements of this commitment, this warranty is contingent on the following conditions. **Failure to meet these conditions without Landice's expressed written consent shall void the factory warranty.**

CONDITIONS

- All home ellipticals must be dealer-installed within a 60-mile driving radius of the selling dealer's nearest retail store. In cases of uncertainty, Internet-based driving directions will be used to determine mileage.
- Prepaid postage "Warranty Registration Card" must be mailed by purchaser within 30 days of purchase.
- Warranty applies to original owner only except in cases where a spouse, child, or domestic partner, is named as a "Beneficiary" on the "Warranty Registration Card" within 30 days of initial installation.
- Floor models and demonstration units over one-year old shall carry a 5-year parts only warranty.

ELLIPTICAL PARTS

This warranty does not cover cosmetic damage, damage due to acts of God, accident, misuse, abuse, improper maintenance, or negligence to the product. This warranty **does** cover normal wear and tear. Worn or defective parts must be returned to Landice within 30 days of repair for analysis. This warranty is valid only in the United States and Canada.

SERVICE LABOR

For a period of 1 year, Landice will reimburse the selling dealer according to the terms, rates and conditions in effect at the time of service. A service authorization number must be obtained prior to performing service in order to qualify for service reimbursement. This service warranty does not cover customer instruction, installation, setup, or adjustments. This warranty is valid only in the United States and Canada.

Registration card must be mailed within 30 days of purchase in order to register your warranty.

Landice will send you a complimentary Landice T-Shirt upon receipt of your registration card.

Home Elliptical Warranty Registration Card

Model #_____ Serial #_____ Date Purchased _____

CUSTOMER INFORMATION

Name_____
Occupation_____
Address_____
City & State_____ZIP_____
Phone_____Fax _____
Do you understand the owner's manual & safety precautions outlined?_____
How did you hear about Landice? _____
What factors most influenced your decision to purchase a Landice elliptical?
_____

FITNESS LEGACY

In the event of my death, I hereby transfer my rights as stated in the terms and conditions of Landice's "Assignable Lifetime Home Elliptical Warranty" to:

_____
Beneficiary: Spouse, Children (list names), or Domestic partner

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5-Year Club Elliptical Warranty

Effective January 1, 2008, Landice warrants all CLUB series ellipticals as follows:

ELLIPTICAL PARTS: 5-YEARS
All defective parts must be delivered prepaid to Landice where they will be replaced for a period of 5-years. This warranty does not cover cosmetic damage, damage due to acts of God, accident, misuse, abuse, or negligence to the product. This warranty is valid only in the United States and Canada.

SERVICE LABOR: 1-YEAR
For a period of 1-year, the selling dealer will be reimbursed by Landice according to the terms, rates, and conditions in effect at the time of service. A service authorization number must be obtained by an authorized dealer prior to performing service in order to qualify for service reimbursement. This service warranty does not cover customer instruction, installation, setup, or adjustments. This warranty is valid only in the United States and Canada.

Registration card must be mailed within 30 days of purchase in order to register your warranty.

5-Year Club Elliptical Warranty Registration Card

Model #_____ Serial #_____ Date Purchased _____

CUSTOMER INFORMATION

Landice will send you a complimentary Landice T-Shirt upon receipt of your registration card.

Facility_____
Contact_____
Address_____
City & State_____ZIP_____
Phone_____Fax _____
Do you understand the owner's manual & safety precautions outlined?_____
How did you learn about Landice? _____
What factors most influenced your decision to purchase a Landice elliptical?

_____

_____

DEALER INFORMATION

Dealer Name_____
City & State_____ Price Paid_____
Dealer Comments_____

LANDICE WARRANTY AND POLICIES

The Service Warranty covers installation of parts shown to be defective in material or workmanship. The selling dealer is responsible for labor for treadmills needing repairs. A Service Authorization (SA) number must accompany any service reimbursement request. Service Authorization numbers are given when the selling dealer or the service technician calls Landice **prior** to beginning work on the treadmill. This allows Landice to verify that the elliptical is within the labor warranty and also aids us in helping the technician troubleshoot the elliptical. Landice welcomes technicians to call us from the field and gives these calls the highest priority.

This Service Warranty does **not** cover customer instruction, installation, setup, maintenance, or adjustments to the drivebelt. Line Cords (power cords) are also not covered by this warranty as these can only be damaged by misuse or abuse.

This warranty does not cover cosmetic damage, damage due to acts of God, accident, misuse, abuse, or negligence of the product. The part will be covered in full only if it exhibits evidence of a manufacturing or material defect during the warranty period. Please keep in mind, “negligence of the product” includes damage inflicted by using the elliptical in an improper fashion.

SERVICE REIMBURSEMENT POLICY:

This is offered to all Landice dealers as well as all authorized Landice service providers. Landice covers our ellipticals with a 1-year labor reimbursement policy. That means we will pay to fix our ellipticals as long as it's within one year from the date the treadmil was purchased.

OUR POLICY:

Landice will reimburse the selling dealer according to our labor rate schedule. If you are a service provider for Landice and do not sell our product, you have the option of billing us direct or you can bill the dealer that you're providing service for. Generally, if our capped rate does not cover your labor charge you would bill the selling dealer. The current rate is $30.00 per hour and is capped at a maximum of one hour labor and one hour travel per elliptical failure. Diagnostic and return trips are not covered. If parts were credited out or Invoice was partially paid the claim will be denied. Note that set-up procedures are not covered by this warranty.

Set-Up Includes: Assembly, replacing parts due to cosmetic damage or abuse, and performing any additional adjustments that may have been upset during shipping.

The dealer must call for a service authorization number **prior** to performing any service to verify the elliptical is under labor warranty. It is advisable to call Landice from the elliptical location to successfully diagnose the problem. This will insure that the correct part will be shipped out the first time. Labor claim forms must be submitted within three months from the date service was performed. Labor claim forms must be completely filled out and have the Landice Service Authorization number at the top. Generally service claims are paid out upon the return of defective parts and/or crediting of the warranty invoice. If parts are outstanding for a period of more than 90 days previously submitted service claims will be returned unpaid.

FLOOR MODELS AND DEALERS STOCK:

If the dealer sells an elliptical to a customer within one year of its purchase from Landice, the warranty period will be extended to start from the date of sale to the customer. If a home ellipticall is over 1 year old when sold to a customer, the elliptical will carry a 5 year parts warranty and there will be NO labor warranty. If a commercial unit is over 1

year old when sold to a customer, the elliptical will carry the remainder of the parts warranty from the date of shipment with NO labor warranty.

PARTS POLICY

Our policy requires that all defective parts be returned to Landice. All warranty parts will be billed to the dealer at dealer cost. Landice will credit this invoice upon receipt of defective parts. It is the dealer's responsibility to return the defective parts to Landice with a copy of the invoice or packing slip. If the defective parts are not returned within 30 days, payment of invoice is expected in full.

WARRANTY PART ORDERING:

When ordering parts under warranty please have the following information available. Warranty orders can not be processed without this information:

1) Customer's name, address and phone number
2) Elliptical serial number
3) Detailed description of failure

PURCHASE PART ORDERING:

Serial numbers are recommended to help ensure the correct part is shipped. Purchased parts are covered by a 90 day replacement part warranty from the date the order shipped.

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SERVICE CLAIM FORM **SA#**

DEALER INFORMATION:		
Service Dealer / Dealer Name:		
Address		
City	State	Zip
Phone( )		
Contact		

CUSTOMER INFORMATION		
Name		
Address		
City	State	Zip
Phone( )	Contact	

TREADMILL INFORMATION	
Model Type:	Date of Service
Frame Serial #	Date of Purchase
DCP Serial # (if applicable)	
Out of box problem Yes No	

CUSTOMER COMPLAINT

SERVICES PERFORMED/PARTS REPLACED		
TRAVEL / LABOR: Travel Time:	Labor Time:	TOTAL TIME: _____

VALIDATION SIGNATURES		
Service Rep. Signature	***Customer Signature***	Date

IN ORDER TO PROCESS THIS CLAIM IN THE LEAST AMOUNT OF TIME,
SEND THE SERVICE CLAIM WITH THE DEFECTIVE WARRANTY PART.
DO NOT SUBMIT SERVICE CLAIMS WITHOUT SERVICE AUTHORIZATION NUMBERS.

RECOMMENDED TOOLS FOR SERVICING LANDICE ELLLIPTIMILLS

1. 10-17mm Allen Key socket or wrench set
2. 10-17mm Wrenches.
3. Ratchet & Extension.
4. Vice Grips.
5. #1, 2, or 3 Phillips Head Screwdriver or power bits.
6. #1, 2, or 3 Flat Head Screwdriver or power bits.
7. Cordless or Corded Drill.
8. Rubber Mallet.
9. Diagonal cutters/Dykes
10. Wire Stripper.
11. Wire Cutters.
12. Digital multimeter (Analog meters are not recommened).

IMPORTANT OPERATING SAFETY INSTRUCTIONS

WARNING: Failure to observe the following operating instructions can result in serious injury!

[1] If you are suffering from any illness, condition, or disability which affects your ability to run, walk or exercise, do not use this product without consulting your doctor first.

[2] If you are suffering from any illness, condition, or disability which affects your ability to run, walk or exercise, do not use this product without supervision present. Failure to do so can result in serious injury should you fall while the machine is in motion..

[3] Failure to leave ample clearance around the elliptical could result in the user becoming trapped between the mechanism and a wall, resulting in serious injury.

Allow a minimum clearance of 6 inches on each side of the elliptical.
Allow a minimum clearance of 1 foot at the rear of the elliptical.

[4] Be sure to familiarize yourself with the owner manual. Look it over carefully. Be sure you understand the control panel operation before using the elliptical.

When using an electrical appliance, basic precautions should always be followed. Read all instructions before using.

DANGER: Always unplug the elliptical before cleaning or removing any shrouds. To reduce the risk of electrical shock in the event of an electrical storm, always unplug the elliptical from the electrical outlet after using.

IMPORTANT OPERATING SAFETY INSTRUCTIONS

WARNING: To reduce the risk of electrical shock or injuries to persons:

[1] An appliance should never be left unattended when plugged in. Unplug from outlet when not in use.

[2] Close supervision is necessary when this unit is used by or near children or disabled persons.

[3] Use this elliptical only for its intended use as described in this manual.

[4] Never operate this elliptical if it has a damaged cord or plug, if it is not working properly, or if it has been damaged. Call your selling dealer immediately for examination and repair.

[5] Keep the power cord away from heated surfaces. Be sure the line cord has plenty of slack and does not get pinched underneath the elliptical.

[6] Never drop or insert any object into any opening. Be sure no objects are near or underneath the elliptical

[7] Do not operate where aerosol (spray) products are being used or where oxygen is being administered.

[8] Connect this appliance to a properly grounded dedicated outlet only.

[9] To disconnect, press the OFF button, and unplug the unit from the wall outlet.

GROUNDING INSTRUCTIONS

This product must be grounded. If it should malfunction or break down, grounding provides a path of least resistance for electric current to reduce risk of electrical shock. This product is equipped with a cord having an equipment grounding conductor and a grounding plug. The plug must be plugged into an outlet that is properly installed and grounded in accordance with all local codes and ordinances.

120 VOLT ELLIPTIMILLS

Ellipticals marked 120 VAC are intended for use in a nominal 120-volt circuit with a grounding plug. Make sure the product is connected to an outlet having the same configuration as the plug. No adapter should be used with this product.

200 – 250 VOLT ELLIPTIMILLS

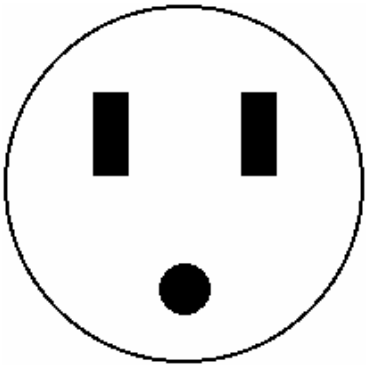
Ellipticals marked 200 – 250 VAC are intended for use on a circuit having a nominal rating more than 120V and are factory-equipped with a specific cord and plug to permit connection to a proper electric circuit. Make sure the product is connected to an outlet having the same configuration as the plug. No adapter should be used with this product. If the product must be reconnected for use on a different type of electric circuit, qualified service personnel should make the reconnection.

DANGER: Improper connection of the equipment-grounding connector can result in a risk of electric shock. Check with a qualified electrician or serviceman if you are in doubt as to whether the product is properly grounded. Do not modify the plug provided with the product. If it will not fit in the outlet, have a proper outlet installed by a qualified electrician.

ELECTRICAL REQUIREMENTS FOR E-SERIES ELLIPTIMILL

All Ellipticals are automatically rated for 110 or 220 VAC with no external transformer. The power supply will know what voltage it's receiving and will bring it to a 12Vdc supply to power the upper console.

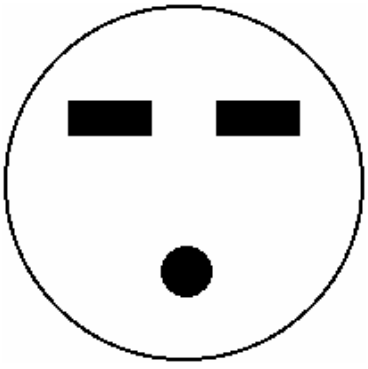
110 VAC ELLIPTICAL PLUG



HOME & COMMERCIAL ELECTRICAL REQUIREMENTS:
110 VAC, 60 Hz , 15 AMP - DEDICATED CIRCUIT & GROUND

PLUG - NEMA 5-15P (PLUG)
RECEPTACLE - NEMA 5-15R (RECEPTACLE)

220 VAC CLUB & INTERNATIONAL PLUG



220V CLUB & INTERNATIONAL ELECTRICAL REQUIREMENTS:
220VAC , 60 Hz , 15 AMP - DEDICATED CIRCUIT & GROUND

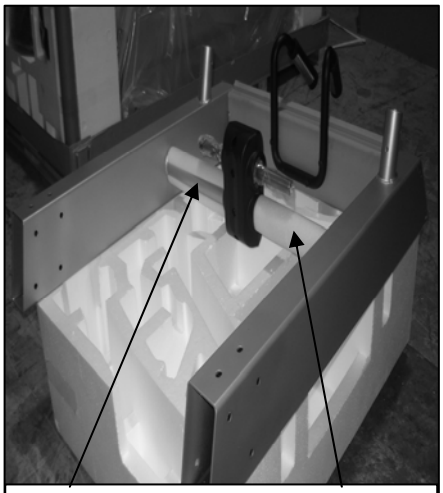
PLUG - NEMA 6-15P (PLUG)
RECEPTACLE - NEMA 6-15R (RECEPTACLE)

ASSEMBLY INSTRUCTIONS

1. Cut the strapping and lift the box top and put it to the side to be used as a remote work station.

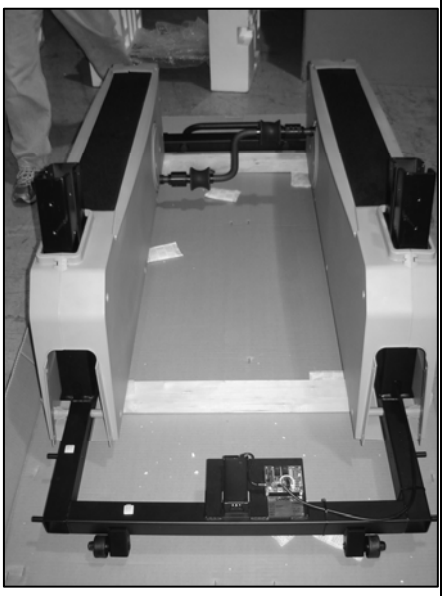
2. Use the box top as a work station to lay out all of the components. Open up the main hardware bag so that you can clearly see all the numbered hardware bags. NOTE: Hardware bag "STEP 6" is intentionally *not* included. This hardware comes preinstalled from the factory.

3. Remove upright and place it on top of the big white foam packaging cube.



Tip: Keep the cross brace foam tubes on until you install upright to avoid accidental scratching.

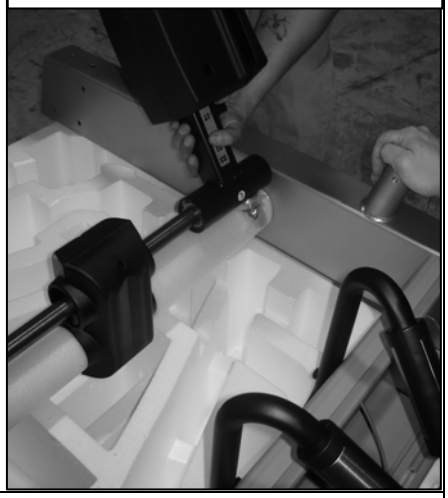
4. Remove the rest of the components and place them on the box top or near by. Remove the base frame from the pallet and place it in the exact spot you plan to use it.



5. Check that all the leveling feet (6) are turned all the way up into the frame by tilting the machine and adjusting them as shown. Attempt to rock the unit back and forth to check for stability. If unstable, adjust the feet until it stabilizes.

6. Slide the vertical stride adjustment members into the upright housing. DO NOT REMOVE the plastic wrap / foam that secures the two arms together. NOTE: There is a difference between right and left ("L" / "R" decals).

Tip: Remove the bearing caps *afterwards* to avoid accidental upright scratching.



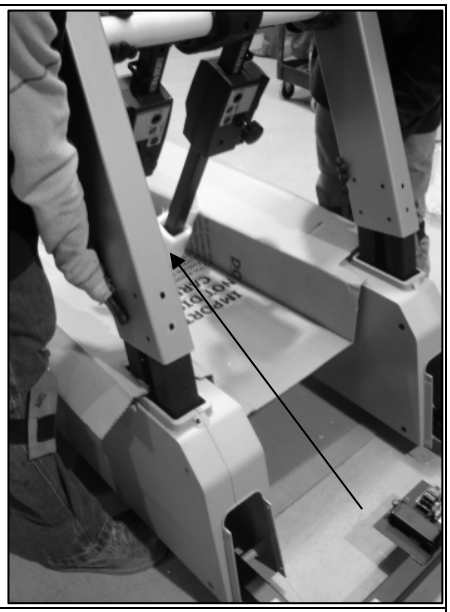
7. Open hardware bag "STEP 1". Use the big flat washer, lock washer and bolt to fasten the vertical stride adjustment members. After firmly tightening, cap the tubes with the large black dome finish plugs to conceal the hardware.

Note: Save the remaining black screws in hardware bag "STEP 1". You will need them after mounting the upright "STEP 12".

8. Place the protective cardboard over the frame as shown in the picture.

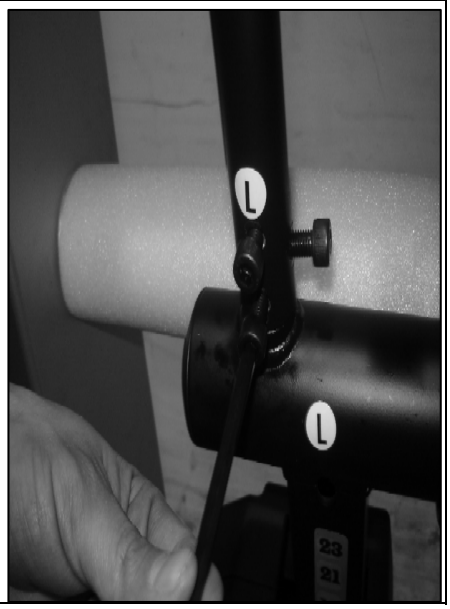
9. Pick up the upright assembly and walk it into the frame from the rear in as shown in the picture.

10. Carefully rotate the upright legs into the correct alignment and slip them into their respective black fittings on top of the frame. Once in, you can remove the protective cardboard and the plastic wrap / foam that secures the arms together (arrow pointing to it in picture).



11. Open hardware bag "STEP 2". Commence, but do not tighten all the screws with washers on each upright using the smaller allen key (12 per side). You will tighten them later.

12. Using the rest of the screws in the the hardware bag "STEP 1", discard the protection caps and firmly fasten the moving hand rails using the bigger allen key. NOTE: There is a difference between right and left ("L" / "R" decals).



13. Open hardware bag "STEP 3". Connect the crank arm to the crank. <u>Tighten the top two bolts first</u>, then the bottom two. **DO NOT REMOVE** the plastic film. It is an isolation dampener that alleviates mechanical stress between joints.

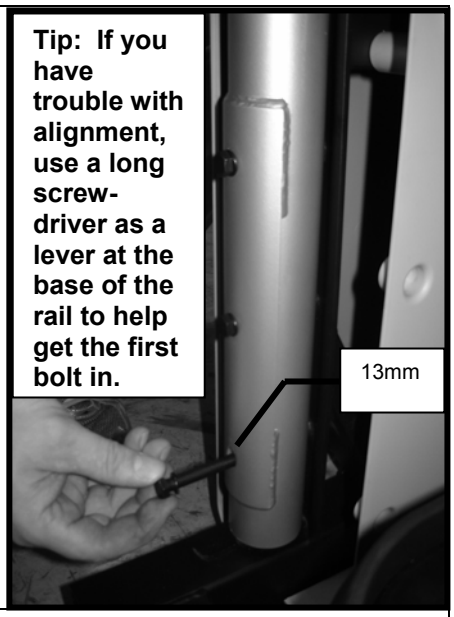
14. Open hardware bag "STEP 4". Connect the pedal arm to the vertical member. Slide the bolt in from the outside and tighten the nut very firmly. NOTE: There is a difference between right and left pedals ("L" / "R" decals).

15. Use the black screws in the hardware bag "STEP 4". Push the pedals forward and screw on the inside plastic joint covers. ***TIP: You must hold the pedal in the forward position in order to get a screw driver in a usable position***.

16. Use the remaining black screws in the hardware bag "STEP 4". Fasten the outside plastic joint covers.

17. Slide the handrails into the upright fittings. Open hardware bag "STEP 5" and use the smaller allen key to commence the (2) screws on each rail. NOTE: There is a difference between right and left rails ("L" / "R" decals).

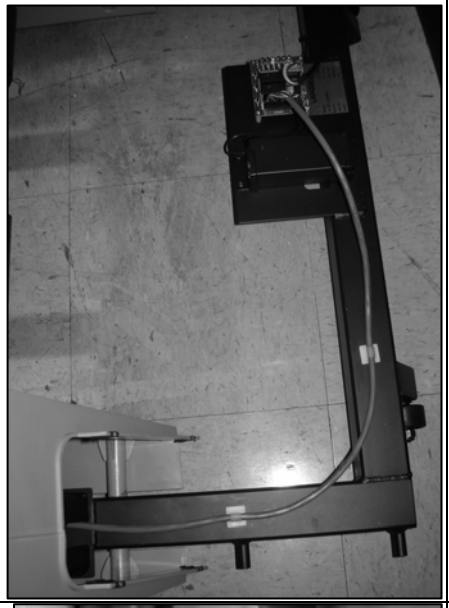
18. Use the remaining bolts in hardware bag "STEP 5" to fasten the bottom of the rail. Once you tighten these, finish tightening the smaller screws at the top of the rail. Once rails are tight, finish tightening the upright screws from *assembly* "Step 12" and the handrail screws from the previous step.


Tip: If you have trouble with alignment, use a long screw-driver as a lever at the base of the rail to help get the first bolt in.
13mm

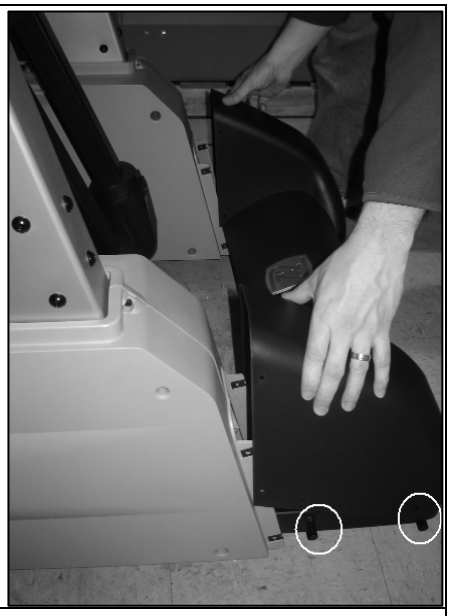
19. Open hardware bag "STEP 7". Use the screws that have a *sharp* point at the end to fasten the plastic bed endcaps. Each endcap used (4) screws.

20. Feed the upright harness (found in membrane box) down the leg. Slide it all the way down until you can grab it at the base of the machine through the access hole. TIP: Once you grab the harness at the base, make sure to clip in the harness at the top of the upright to prevent it from falling down inadvertently.

21. Clip the harness to the (2) harness clips along the frame. Once you have secured the harness to the clips, connect it to the female connector on the lower electronic board. ***TIP: If installing an LVS, install the Caddy (reading rack) now. Then LVS, then resume this assembly (step 22).***

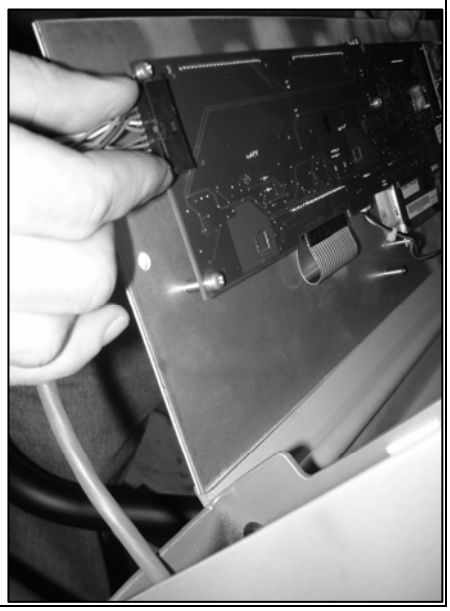


22. Mount the front cover. Use the remaining screws in hardware bag "STEP 7" to mount the cover. NOTE: Use the machine screws (4) in the bag with a dull point to fasten the cover to the frame (shown in picture). Use the remaining sharp point screws (8) to mount the rest of the cover to the silver side covers.



23. Place the membrane in the control panel and connect the two harnesses coming from the contact hand grips to the smaller board located on the far side of the membrane. The white connectors can go on either of the two available 3-pin connectors.

24. Connect the upper harness to the upper board. Center the membrane and pitch it back into place so that the velcro mates securely. Connect the main power cord to the front cover so you can turn the machine and verify all electrical connections.



25. Open hardware bag "STEP 9" and use the screws to attach the upright endcaps to the upright.

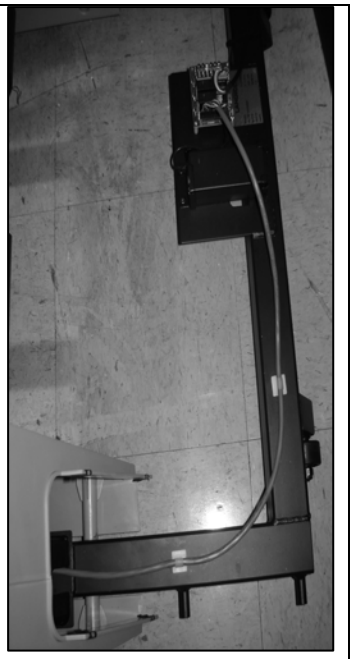
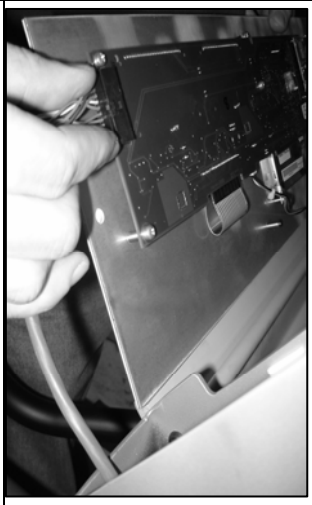
26. Open hardware bag "STEP 8" and use the allen key to fasten the rear step of the elliptical.

27. Check to make sure that the leveling feet below the step are firmly touching the ground to prevent any rocking.

28. Move on to the Caddy (reading rack) installation. The instructions are located in the box with the caddy. ***NOTE: The main 4 mounting bolts for the Caddy are not 7/16", use 10mm.***

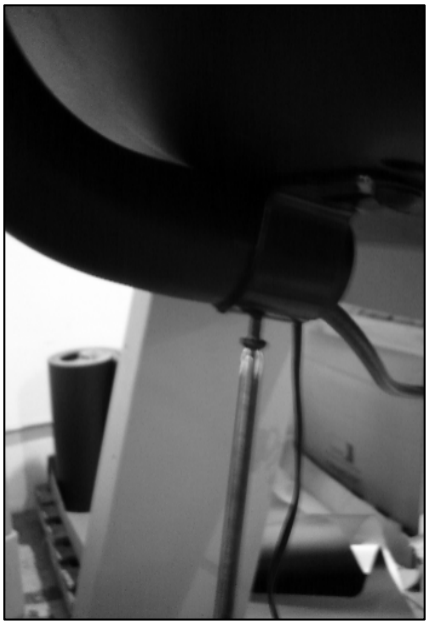
IMPORTANT: VERIFY THAT ALL SCREWS ARE TIGHT OR KNOCKING NOISE MAY OCCUR.

E-SERIES DCP ASSEMBLY INSTRUCTIONS

1. Feed the upright harness (found in membrane box) down the leg. Slide it all the way down until you can grab it at the base of the machine through the access hole. ***TIP: Once you grab the harness at the base, make sure to clip in the harness at the top of the upright to prevent it from falling down inadvertently.***		2. Clip the harness to the (2) harness clips along the frame. Once you have secured the harness to the clips, connect it to the female connector on the lower electronic board.	
3. Place the membrane in the control panel and connect the two harnesses coming from the contact hand grips to the smaller board located on the far side of the membrane. The white connectors can go on either of the two available 3-pin connectors.		4. Connect the upper harness to the upper board. Center the membrane and pitch it back into place so that the velcro mates securely. Connect the main power cord to the front cover so you can turn the machine and verify all electrical connections.	

E-SERIES LVS2 ASSEMBLY INSTRUCTIONS

1. After mounting the reading rack, slide the bottom of the tube (cables first) into the clamp that's mounted on the bottom of the reading rack. Align the tube hole with the clamp hole and tighten using the black phillips head screw located in the zip lock bag.

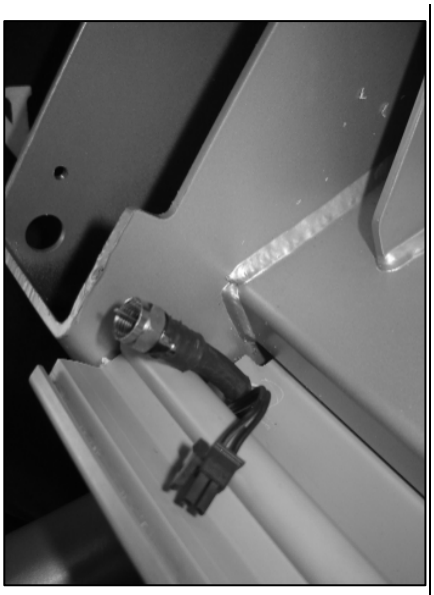


2. Grab the last black clamp that comes preassembled with the white nylon push-on rivets. Align the clamp with the predrilled holes and push them on until you hear both sides snap in.

3. Grab the cable jack adapter from the zip-lock bag containing batteries and connect it to the television cable jack at the top of the television.

4. Connect the cable and power cables from the tube to the television.

5. Feed the cable and power wires from the bottom of the tube into the left side of the control panel from the underneath.



6. Take the cable and power wires and feed them down the left upright.

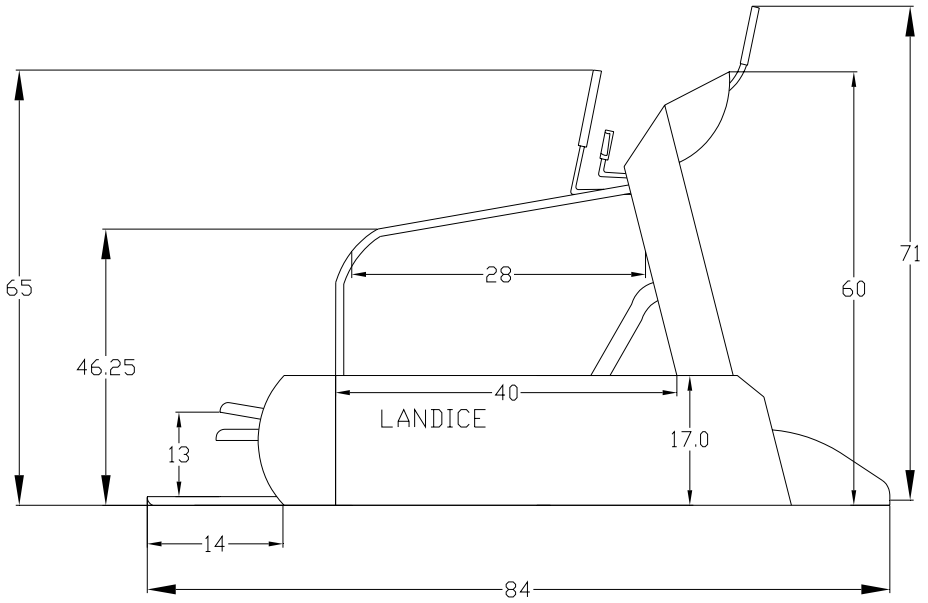
7. Grab the cable and power wires at the base of the upright through the access hole.

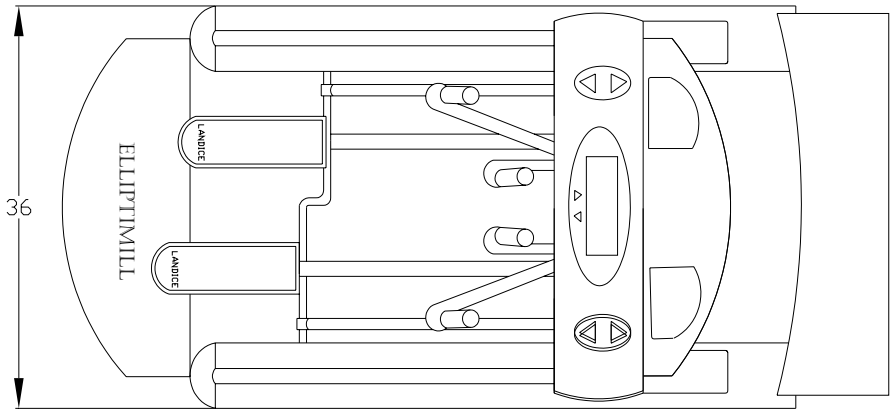
8. Connect the cable and power wires to their respective counter parts already mounted on the plastic covers right next to access hole.

9. Push the cable and power wires (thin wire first) into the cable clip located underneath the control panel. This will prevent them from bouncing around during usage.

10. Connect the power cord. Turn on the player (main elliptical cord must also be connected) to verify everything works.

E-SERIES ELLIPTIMILL DIMENSIONS & WEIGHT





<u>EllipticMills Boxed</u>

E8	81” x 40” x 32”	Weight 500 lbs.
E9	81” x 40” x 32”	Weight 500 lbs.

<u>EllipticMills Unboxed (No box or Pallet)</u>

E8	Weight 450 lbs.
E9	Weight 450 lbs.

LANDICE
Crafting the World's Finest Treadmills

111 Canfield Avenue • Randolph, New Jersey 07869 • 1-800-LANDICE • FAX 973-927-0630

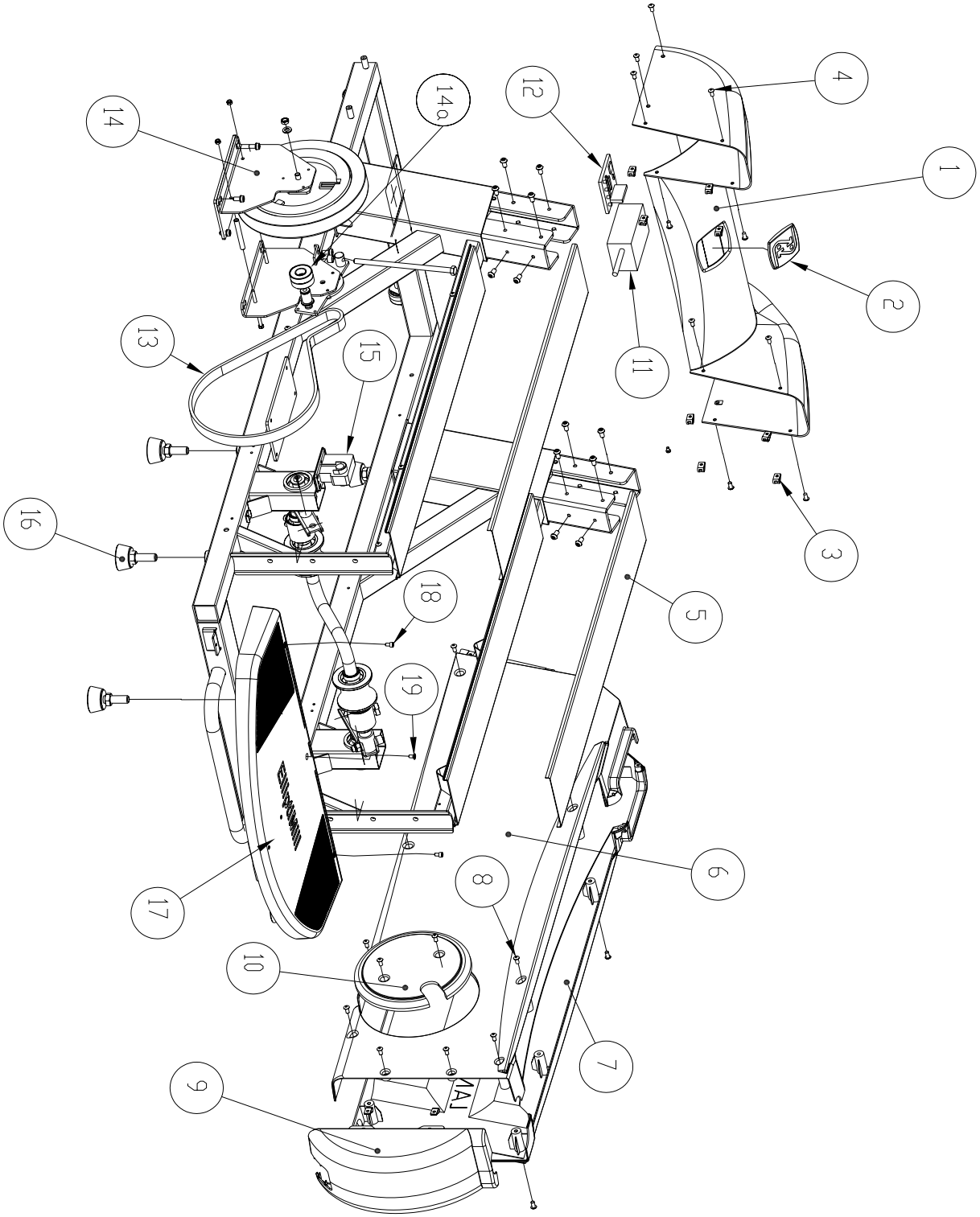
Parts List for ElliptiMill

1	MOTOR COVER ASSEMBLY	81027
2	ROLLMENTUM	70519
3	CLIP, PLASTIC COVERS	81056
4	MOTOR COVER SCREWS	81041
5	TRACTION STRIP	81037
6	SHROUD, INSIDE, RIGHT	81031
	SHROUD, INSIDE, LEFT	81030
7	SHROUD, OUTSIDE, RIGHT	81029
	SHROUD, OUTSIDE, LEFT	81028
8	SHROUD SCREWS	81041
9	FRAME ENDCAP, RIGHT	81026
	FRAME ENDCAP, LEFT	81025
10	SHROUD DISC	81042
11	TRANSFORMER	81038
12	RELAY BOARD	82000
13	BELT	81036
14	MAGNETIC FLYWHEEL ASSEMBLY	81004
14A	TENSION ROLLER BRACEKT ASSEMBY	81032
15	BRAKE MOTOR Assembly	81033
16	LEVELING FOOT	81018
17	REAR STEP ASSEMBLY	81000
18	SCREWS, REAR STEP OUTTER	MISC
19	SCREW, REAR STEP MIDDLE	MISC
20	CRANK SHAFT ASSEMBLY	81003
21	DRIVE PULLEY ASSEMBLY (attached to drive belt)	81034
	DRIVE WHEEL ASSEMBLY	81035
22	CRANK ARM PINION	MISC
23	WHEEL WASHER	MISC
24	PINION SCREW	MISC
25	PEDAL ROLLER	MISC
26	CRANK NUT	MISC
27	CRANT SCREW	MISC
28	CRANK CAP	MISC

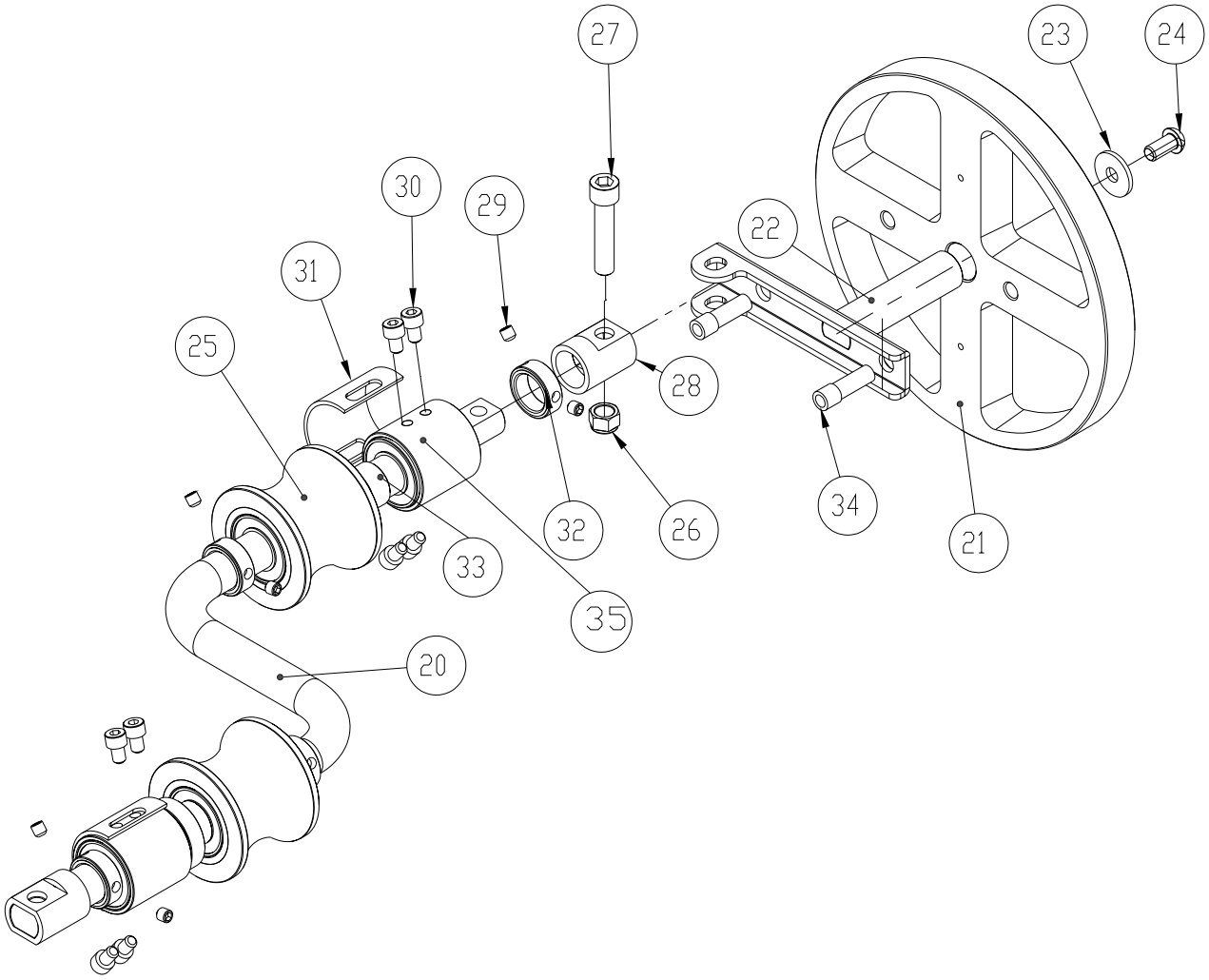
29	2.5 MM ALLEN HEAD SET SCREW	MISC
30	CRANK BEARING ALLEN BOLT	MISC
31	ISOLATION BEARING	MISC
32	BEARING SPACER	MISC
33	CRANK ARM SPACER	MISC
34	PINION BOLT	MISC
35	CRANK BEARING	81047
36	TOP, READING RACK	70522-TOP
37	RIGHT, READING RACK BUCKET	70522-BUCKETR
38	EXECUTIVE TRAINER MEMBRANE	82001
	CARDIO TRAINER MEMBRANE	82002
	PRO TRAINER MEMBRANE	82007
39	RIGHT, CONTROL END CAP	81055
	LEFT, CONTROL END CAP	81054
40	CONTROL END CAP SCREWS	MISC
41	ACCUTRACK HANDRAIL SCREWS	MISC
42	CROSSBAR, CHR ASSEMBLY	81001
43	HANDRAIL COVER	MISC
44	(TOP COVER) PART OF CENTRAL SHAFT COVER ASSEMBLY	81023
45	(BOTTOM COVER) PART OF CENTRAL SHAFT COVER ASSEM	81023
46	RIGHT, SIDE HANDRAIL ASS'Y	81005
	LEFT, SIDE HANDRAIL ASS'Y	81006
47	MOUNTING HANDRAIL SCREWS	MISC
48	PEDAL	81044
49	FOOTPAD	81045
50	PLASTIC PEDAL ASSEMBLY	81019
51	MOVING HANDLE BAR ASSEMBLY,RIGHT	81010
	MOVING HANDLE BAR ASSEMBLY, LEFT	81009
52	LOWER STRIDE ARM COVER, INNER	MISC
53	PEDAL SCREWS	MISC
54	CRANK ARM ALLEN BOLTS	MISC
55	LOWER STRIDE ARM COVER, OUTER	MISC
56	PEDAL TUBE ASSEMBLY, RIGHT	81007
	PEDAL TUBE ASSEMBLY, LEFT	81008
57	UPRIGHT ALLEN HEAD BOLTS	MISC
58	UPRIGHT END CAP ASSEMBLY	81024
59	STRIDE CRANK ARM ASSEMBLY, RIGHT	81017
	STRIDE CRANK ARM ASSEMBLY, LEFT	81016
60	RIGHT STRIDE ARM	MISC
	LEFT STRIDE ARM	MISC

61	STRIDE/CRANK ARM ASSEMBLY, RIGHT	81016
	STRIDE/CRANK ARM ASSEMBLY, LEFT	81017
62	LOWER STRIDE ARM BOLT	MISC
63	SPRING	MISC
64	SPRING PLATE WASHER	MISC
65	SPRING PLATE	MISC
66	T-HANDLE	MISC
67	STRIDE COVER, RT INNER STRIDE COVER, LF INNER	81022-I 81021-I
68	UPRIGHT TOWER	MISC
69	HANDRAIL MOUNTING BOLTS	MISC
70	STRIDE KNOB	MISC
71	LINKAGE OUTTER SCREW	MISC
72	STRIDE COVER, RT OUTER STRIDE COVER, LF OUTER	81022-O 81021-O
73	DOME PLUG	MISC
74	MOVING HANDLE BAR ASSY RT MOVING HANDLE BAR ASSY LF	81010 81009
75	MOVING HANDLE BAR COVER	81040
76	BOTTOM, READING RACK	MISC
77	LEFT, REDING RACK BUCKET	MISC
78	EXECUTIVE TRAINER DISPLAY BOARD	82003
	CARDIO TRAINER DISPLAY BOARD	82004
	PRO TRAINER DISPLAY BOARD	82008
79	LOWER STRIDE ARM NUT	MISC
80	BOTTOM CONSOLE COVER ASSEMBLY	81002
81	CRANK SHAFT ASSEMBLY	81003
82	LINKAGE CAP ASSEMBLY, RIGHT	81022
	LINKAGE CAP ASSEMBLY, LEFT	81021

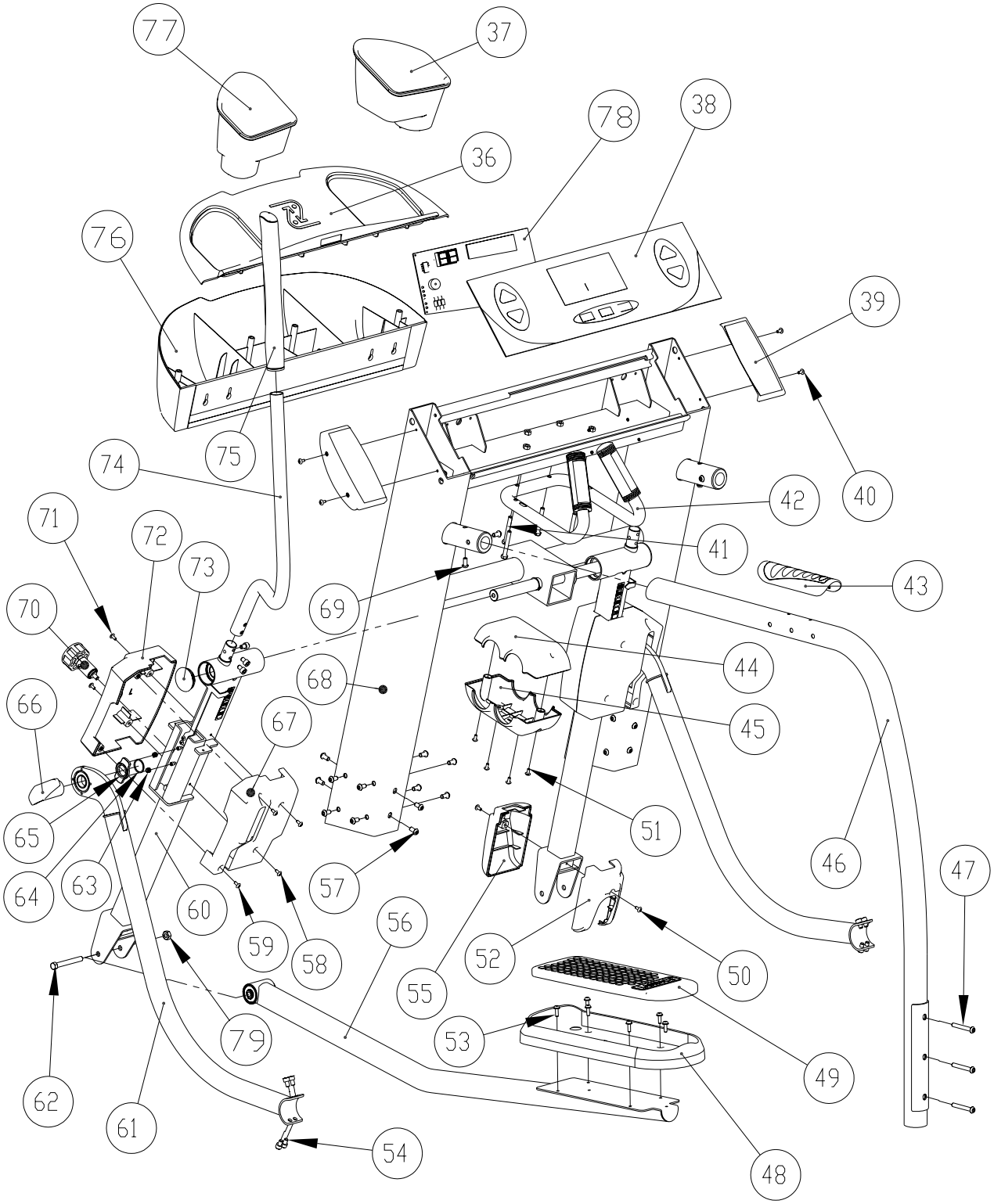
ELLIPTIMILL BED FRAME



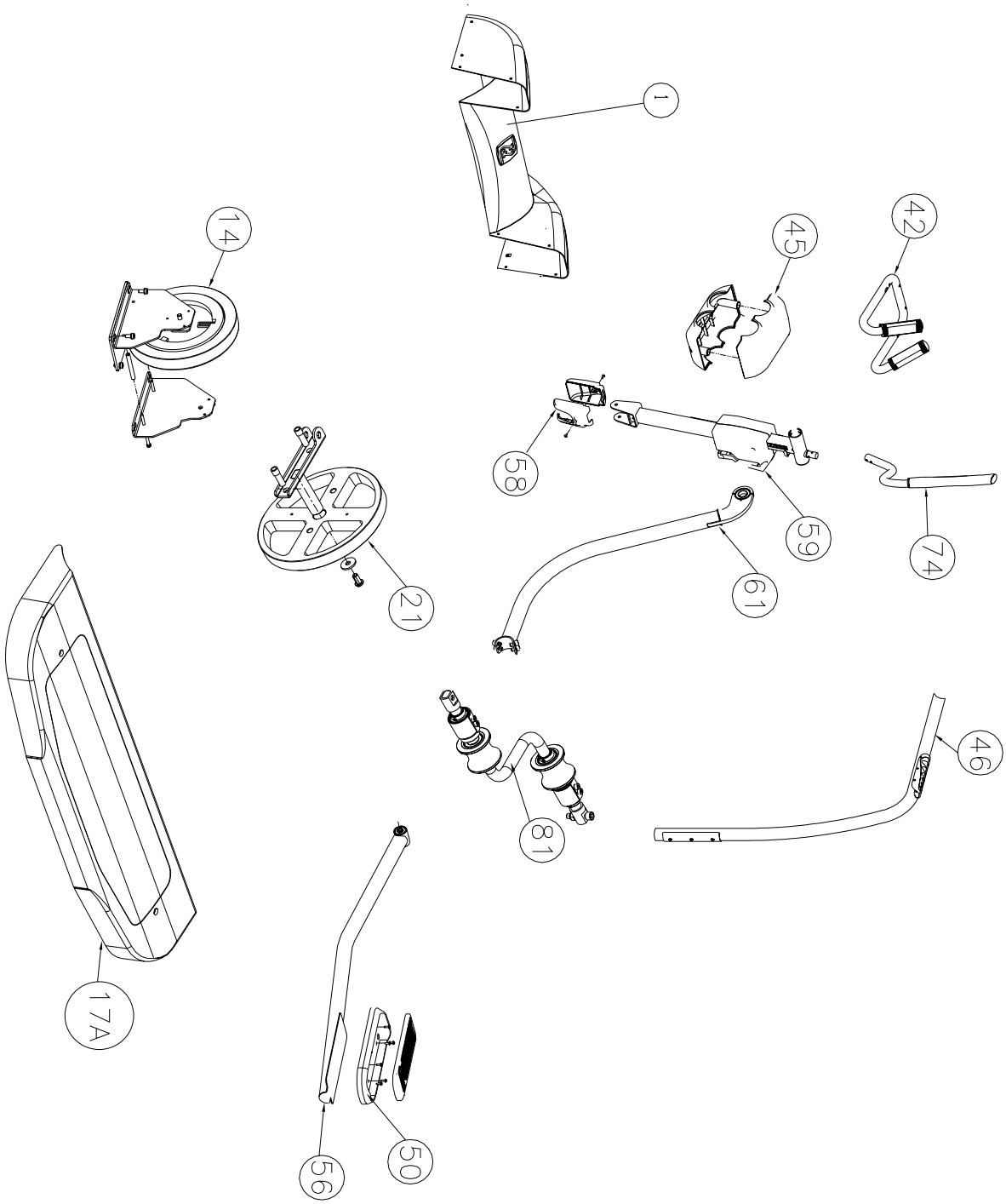
ELLIPTIMILL CRANK ASSEMBLY



ELLIPTIMILL UPRIGHT



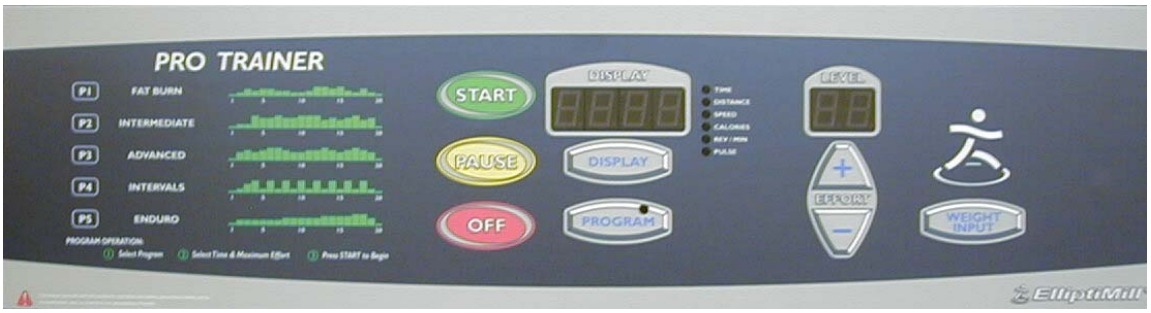
ElliptiMill Parts Assembly



E-SERIES CONTROL PANEL & FEATURES

EXECUTIVE TRAINERS ARE ON ALL E8 & E9 MODELS
Production Date: February 12, 2008 Serail#'s E8-1013, E9-1010
Control Panel Features: 8.5 inch computer-animated video display, Chest Strap and Contact Heart Rate Crossbar, 5 Built-in programs, 5 User-defined programs, 6 Fitness Tests: Balke, Firefighter, Army, Navy, USMC, & USAF.
Electronics: Relay board, Brake controller.
Home & Commercial Settings: Level 1-20 Effor Levels, MPH, REV/MIN, or KMH

CARDIO TRAINERS ARE ON ALL E8 & E9 MODELS
Production Date: February 12, 2008, Serial#'s E8-1005, E9-0102
Control Panel Features: LCD Display windows, Chest Strap and Contact Heart Rate Crossbar, 5 Built-in Programs, 5 User-defined programs, 3 Fitness Tests: Balke, Firefighter, & Army. 2 Built-in heart rate monitoring programs, 2 User-defined heart rate monitoring programs.
Electronics: Relay board, Brake controller.
Home & Commercial Settings: Level 1- 20 Effor Levels, MPH, REV/MIN, or KMH.



PRO TRAINERS ARE ON ALL E8 & E9 MODELS
Production Date: February 13, 2008, Serial#'s E8-1008, E9-1023
Control Panel Features: LED digit display, Chest Strap and Contact Heart Rate Crossbar, 5 Built-in Programs, 2 User-defined programs.
Electronics: Relay board, Brake controller.
Home & Commercial Settings: Level 1-20 Effort Levels, MPH, REV/MIN, KMH.

Accessing Features on the E8/E9 Elliptimill

To access functions, turn treadmill off and press and hold first button listed then press next button listed. Release ALL buttons at same time to access feature.

Executive Trainer 2

1) MENU/START	Diagnostic mode & Open Loop
2) MAIN MENU go to SETUP Go to UNITS	Configures Metric or English
3) EFFORT -/PAUSE/START	Reboots
5) MAIN MENU go to SETUP Go to RESET STAT	Resets hours and miles

Cardio Trainer 2

1) NEXT/START	Diagnostic mode & Open Loop
2) "Display + & -"/START	Self-Diagnostics
3) MANUAL/PROGRAM/START	Configures Metric or English
4) EFFORT -/PAUSE/START	Reboots
5) 1/5/START	Resets hours and miles

Pro Trainer 2

1) DISPLAY/START	Diagnostic mode
2) EFFORT -/WEIGHT INPUT/START	Configures Metric or English
3) PAUSE/START	Display Software version
4) WEIGHT INPUT/PAUSE/START	Reboots

DEFINITION OF PARTS

Brake Motor
The brake motor controls the resistance level of your work out.

Brake Motor Cable
Attaches to the brake motor and brake wheel. This cable increases/decreases resistance when the brake motor engages. The cable will move internal components inside the brake wheel to adjust your resistance.

Central Shaft Cover
The cover is placed over the wheel and crank shaft and is held in by two screws.

Crank Arm
The crank arm attaches to the crank shaft and stride arm assembly. This arm corresponds the movement of the stride arm with the crank shaft.

Isolation bearing
Isolates the crack arm from the crank bearing to prevent metal on metal noise.

Crank bearing
The bearing is part of the crank assembly. The crank side arm attaches to the bearing for stride movement.

Crank Shaft Assembly
The crank shaft allows stride movement. The assembly consists of the shaft, drive wheel & drive pulley assembly, crank arm pinion, pedal roller, crank bearings, and hardware.

Crossbar Control Heart Rate (C.H.R.)
Heart contact handgrip will provide the user heart rate reading during use.

Drive Belt
The drive belt will rotate the drive pulley assembly and braking system.

Drive Pulley Assembly
Drive belt attaches to this assembly. Also consist of the arm pinion. This controls rotation to the crank shaft assembly.

Drive Wheel Assembly
Attaches to the arm pinion and crank assembly. The assembly will run concurrently with the crank shaft. This assembly is on the opposite side of the drive belt.

Faceplate
This overlay is found on the Pro Trainers models and is screwed onto the Upper Display Board.

Footpad
Cushion for user's feet.

Harness, Main upper
Transmit data from the upper board to the relay board.

HRC Dual Receiver
Takes transmission signals from the chest strap or CHR crossbar and converts it to a digital signal to display heart rate info on your upper console.

Leveling Foot
The ElliptiMill will have 6 leveling feet to level the equipment and prevent it from rocking.

Linkage Cap Assembly
These covers are placed over the adjustment knob to protect the parts that adjust the stride length.

Lower Bracket Cover Assembly
The caps cover where the pedal tube and stride are bolted.

Magnetic Brake Wheel
The brake wheel provides mechanical resistance for user's performance. The brake wheel uses magnetic force to provide mechanical resistance for level of performance.

Moving Handlebar Assembly
Attaches to the stride arm which allows your arms to move with your stride.

Pedal Tube
This bolts to the end of the stride arm and rides on the pedal roller. This part takes the force from the customers stride and in turn moves the crank arm & shaft to create an elliptical motion.

Rear Step
This platform is located at the rear of the ElliptiMill.

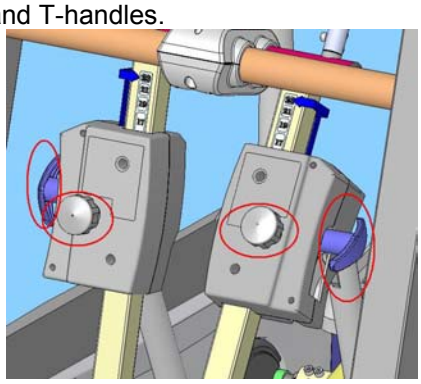
Relay Board
This part powers up the upper board and sends command to the brake motor for resistance.

Stride Crank Arm Assembly
The stride arm gets bolted to a dowell on the upright. The moving handrails, crank arm and pedal tube attach to this arm. The arm is adjustable for user comfort.

Diagnosing an ElliptiMill “Knock”

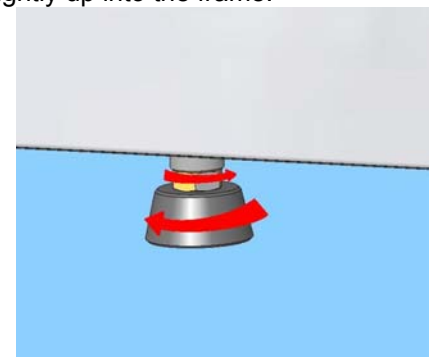
Cyclical noises described as “ticks”, “knocks”, or “clanks” are typically caused by an assembly oversight that can easily be adjusted by the customer or a service technician. After trying each corrective action listed below, operate the ElliptiMill to check if the reported noise has been eliminated.

1. Loosen and retighten both stride adjustment knobs and T-handles.

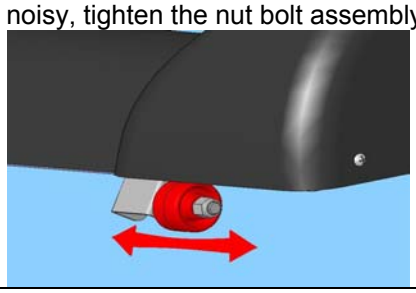


2. Check all leveling feet. They should all be firmly pushing against the ground. If you can hand turn any of them, turn them down into the floor until they are pushing firmly against the ground.

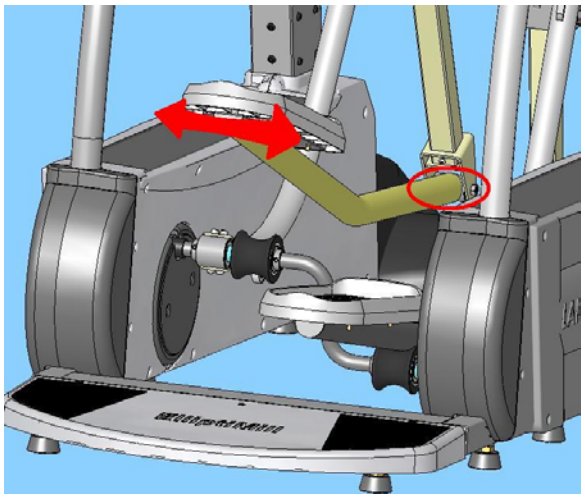
   Also, check to see that all the nuts above the feet are turned tightly up into the frame.



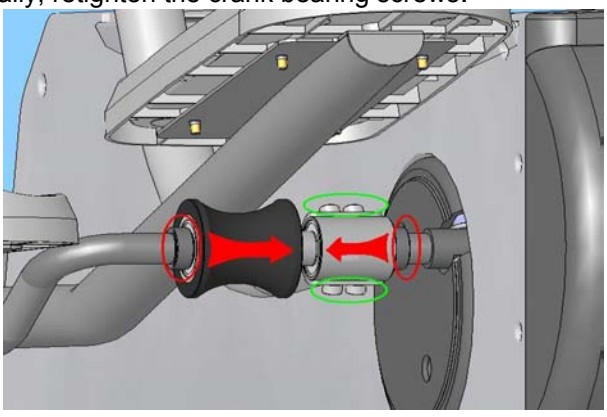
3. Check the front wheels by jiggling them side-to-side. If they are noisy, tighten the nut bolt assembly.



4. Check the pedal arms. Pick up each pedal arm by the pedal about waist high. Gently jiggle it side-to-side. If the joint at the other end of the tube (circled in red) feels sloppy, remove the plastic covers and tighten the nut bolt assembly.



5. Crank to Crank Arm alignment check. Loosen the locking collars (circled in red) and crank bearing screws (circled in green). Get on the machine and operate it for about 60 seconds. Retighten the locking collars while pushing the bearing assembly together so there are no gaps. Finally, retighten the crank bearing screws.



ISOLATING NOISES

TOOLS NEEDED:

- **Automotive stethoscope or long flat head screwdriver.**
- **10-17mm allen key and socket set.**
- **Ratchet**
- **Adjustable wrench**
- **Phillip's head screwdriver or drill bit.**
- **Cordless drill.**

Intro

Noises can be difficult to diagnose due to the fact that knocking, clunking, banging, or ticking noises resonate throughout the whole machine. Follow these steps to pinpoint which component is noisy.

Diagnostic Steps

1st: Determine which side the noise is coming from by using the machine. If you can't pinpoint the noise then take off the right side stride & frame covers. Then loosen the red t-handle and rotate the machine. **Did you hear the noise?**

NO: REPLACE CRANK ARM
YES: PROCEED TO NEXT STEP

2nd: Tighten the red t-handle and then disconnect the 4 socket head cap screws at the bottom right side of the crank arm. Spin the bearing that it connects to and see if the noise present. **Is the noise present?**

YES: REPLACE THE CRANK BEARING
NO: PROCEED TO NEXT STEP

3rd: Reconnect the bottom part of the crank arm and lift up on the right foot rail. Spin the pedal guide on the right side. **Was the noise present?**

YES: REPLACE THE PEDAL GUIDE.
NO: PROCEED TO NEXT STEP.

4th: Take a long flat head screwdriver and place the flat-head end on the right side drive wheel bearing. Then hold the handle part of the screwdriver up to your ear and spin the drive wheel (***using an automotive stethoscope will work as well***). **Did you hear the noise?**

YES: REPLACE THE DRIVE WHEEL BEARING.
NO: PROCEED TO THE NEXT STEP.

Step 1 thru 5 covers all the components on the right side of the machine. If the noise is not found then follow these steps for the left side. If you went through both sides and still can't diagnose the noise then please contact the Landice Technical Service Department @ **1-800-LANDICE (1-800-526-3423).**

TESTING COMPONENTS

1. BRAKE MOTOR:

Remove the brake motor from the drive pulley bracket and disconnect the harness. Then take out the phillip head screws holding the dc motor in place and pull DC motor out. Using a digital multimeter set to ohms (Ω), place your meter probes inside the clear insulation across the yellow and orange wires. You are measuring resistance so you do no need to observe polarity.

- *Turn knob of pot completely counter clockwise. Then slowly turn the knob clockwise and you should measure 1.5Ω – 4.6K Ω.*
- *Turn knob of pot completely counterclockwise and you should measure 4.6KΩ – 1.5Ω*

Now place meter probes across red and orange.

- *Turn the knob of the pot completely clockwise. Then slowly turn the knob counterclockwise and you should measure 4.6KΩ – 1.5Ω.*
- *Turn knob of pot completely clockwise and you should measure1.5Ω – 4.6KΩ.*

Now place meter probes across yellow and red.

- *Total resistance should be 4.6KΩ*

2. RELAY BOARD:

The relay board runs on DC voltage. The DC voltage is delivered to the relay board from the J1 connector from the power pack. If the green +12V LED is illuminated then that means the relay board is being powered from the power pack. If this LED does not come on, then check to make sure AC voltage is coming out of the wall. After confirming voltage out of the wall, inspect the line cord for any damage. If the condition of the line cord is fine, then check the connections from the power pack to the relay board. If the connections are fine, then measure DC voltage from the J1 connector. Set your voltmeter to DC volts, place you red test lead at the back of the J1 connector and your black test lead on any of the phillips head screws that mount the relay board into place. You should measure at least 12Vdc. If the relay board is receiving DC voltage then it must be replaced.

3. SPEED SENSOR:

The speed sensor can be checked for proper operation by entering DIAG mode (see page 36). There is also a yellow SPEED LED soldered to the relay board. The LED will flash ON and OFF when you rotate the drive pulley slowly by hand. This indicates proper operation of the speed sensor. If you do not get this flashing to occur, then check for proper speed sensor gap and check connections. If this does not help, then replace the speed sensor.

4. UPPER DISPLAY BOARD:

The upper board is powered by DC voltage. DC voltage is supplied from the relay board. Confirm the upper display board is getting DC voltage delivered to it. You can measure across the black and green wires from the upper wire harness. If the display board is getting the proper DC voltage supplied to it and it does not light, then perform a membrane bypass test for ET & CT Models (see page 46). If it's a PT then hit the START button manually to see if it turns on.

5. FACEPLATE:

Pro Trainer (PT) models utilize a faceplate. This part has no mechanical or electrical components that can fail. However, if you press a key and it fails to respond check for proper display board spacing. The faceplate is designed as a passive panel. When the user presses a key (pushes thru the faceplate) they activate a switch mounted on the upper display board. If the display board to faceplate distance is too great, the display board switch will not be fully activated and result in a dead response.

6. MEMBRANE PANEL:

The membrane panel has small micro switches laminated inside that transmit the user's commands into treadmill functions. Enter "Diagnostic Mode" to confirm proper operation of the membrane panel. In this test mode you will be able to check each key on the membrane panel by pressing a key. What will happen is that you will hear an audible beep and also see a numeric code appear in the main display window. There is a numeric code assigned to each key on the panel (except the STOP key). For a complete list of these codes see the cart on page. If you do not hear a "BEEP" or see the proper code appear, then the key is bad and the membrane panel must be replaced. The next page will give you a listing of all the button feedback numbers for each machine.

E8/E9 SERIES BUTTON FEEDBACK

	Executive Trainer	***Cardio Trainer***	***Pro Traîner***
1	LEFT 1 (TOP)	AGE	START
2	LEFT 2	0	PAUSE
3	LEFT 3	1	DISPLAY
4	LEFT 4 (BOTTOM)	START	PROGRAM
5	RIGHT 1 (TOP)	4	EFFORT (+)
6	RIGHT 2	7	EFFORT (-)
7	RIGHT 3	PAUSE	
8	RIGHT 4 (BOTTOM)	DISPLAY -	WEIGHT INPUT
9	BACK	WEIGHT INPUT	
10	MENU	ENTER	
11	NEXT	2	
12	START	PROGRAM	
13	PAUSE	5	
14	EFFORT (+)	8	
15	EFFORT (-)		
16	UNITS (+)	NEXT	
17	UNITS (-)	UNITS (-)	
18	AGE		
19	WEIGHT	3	
20	0	EFFORT (-)	
21	1	6	
22	2	9	
23	3		
24	4		
25	5	UNIT (+)	
26	6		
27	7		
28	8		
29	9	HRC BUTTON	
30	ENTER	MANUAL	
31		EFFORT (+)	
32		DISPLAY +	

ELLIPTICAL PT/CT/ET MEMBRANE BYPASS TEST

NOTE: +12-17Vdc must be confirmed across the black and green wires at the upper connector on the wire harness to perform this procedure.

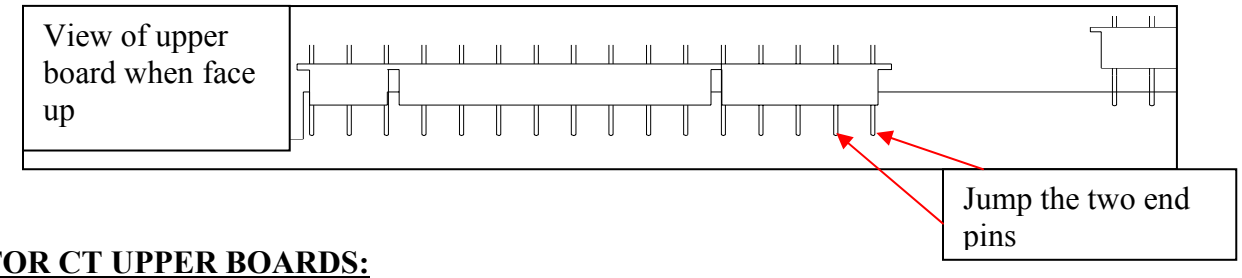
Tools Required:

- Phillips Head Screwdriver
- Digital Multimeter
- Jumper wire (only if your multimeter doesn't have a continuity setting)
- Towel or bubble wrap.

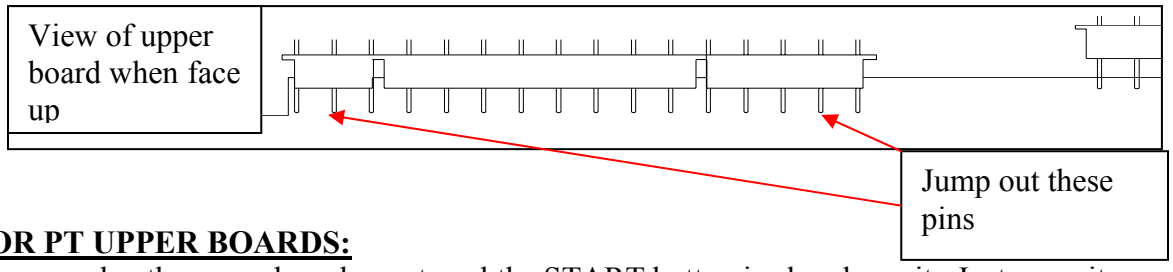
Instructions:

1. Pull the console forward of the Velcro seal and then disconnect the membrane ribbon cable.
2. Remove all the display board screws holding the upper board to the membrane.
3. Pop the upper display board off the membrane panel but leave the wire harness connected to the upper board.
4. Lay your towel or bubble wrap inside the control panel frame and lay the upper board face up.
5. Set your voltmeter to continuity and touch your two test leads together to make sure they beep. Then proceed to follow the steps below to jump out the START & GND pins which upper board application you're working on.

FOR ET UPPER BOARDS:



FOR CT UPPER BOARDS:



FOR PT UPPER BOARDS:

Once you lay the upper board on a towel the START button is already on it. Just press it manually and if it doesn't turn on the upper board is bad. If it does then it's a mounting issue.

7. HEART RATE RECEIVER:

The heart rate receiver runs off of DC voltage supplied from the upper display board. The display board will power the receiver by sending 5Vdc across the black and red wires. When the heart rate system receives a transmission signal from the chest strap or Contact Heart Rate grips, it will send a low DC voltage signal back to the upper board across the yellow and black wires. Please refer to the heart rate diagnosis chart below for further info.

HEART RATE DIAGNOSIS:

CHR Grips Diagnosis:

1. There should be a constant 4.8-5.0Vdc across the red & black wires on CHR Grip harness. If there is 0Vdc, then make sure that the upper board is powering the h/r receiver board. Measure across RED & BLK wires at the UPDB. If you measure 0Vdc then the upper board is bad. If the upper board is sending 5Vdc to the receiver but the receiver is not sending 5Vdc to the CHR grips then the receiver is bad.
2. If the CHR Grip's are working properly this is what you should see with your voltmeter (not touching the grips):

TABLE A

WIRES	Vdc	OHMS
RED & BLACK	5Vdc	No reading
RED & WHITE	0Vdc	No reading
BLACK & WHITE	4.85Vdc	1.67M ohms

If the CHR Grip **is** working properly with a Pulse Simulator or when touching the grips, this is what you should see on your meter:

TABLE B

WIRES	Vdc	OHMS
RED & BLACK	5Vdc	No reading
RED & WHITE	Voltage fluctuation between 3.2V – 4.6Vdc *NOTE: Fluctuation will get faster as you increase heart rate*	No reading
BLACK & WHITE	Voltage fluctuation between .3V – 1.5Vdc *NOTE: Fluctuation will get faster as you increase heart rate*	4.5M – 23M ohms *NOTE: Fluctuations will get faster as you increase the heart rate*

If the CHR Grip **is not** working properly with a Pulse Simulator or when touching the grips, this is what you should see on your meter:

TABLE C

WIRES	Vdc	OHMS
RED & BLACK	5Vdc	No reading
RED & WHITE	3.2Vdc (reading will be steady)	No reading
BLACK & WHITE	.3Vdc (reading will be steady)	4.5M ohms (reading will be steady)

If you the get readings from TABLE B and the console won't output a heart rate reading then the upper board has failed.

Heart Rate Receiver / Chest Strap Diagnosis:

1. There should be a constant 4.5Vdc – 5Vdc across the red & black wires on the heart rate receiver harness. If you measure 0Vdc across those two points then the upper board is bad.
2. If the upper board is working properly, this is what you should see on your voltmeter (not touching the grips)

TABLE A

WIRES	Vdc	OHMS
RED & BLACK	5Vdc	0 ohms
RED & YELLOW	4.3Vdc	0 ohms
BLACK & YELLOW	0Vdc	9.85M ohms

If the heart rate receiver **is** working properly with your pulse simulator or chest strap, this is what you should see on your voltmeter:

TABLE B

WIRES	Vdc	OHMS
RED & BLACK	5Vdc	0 ohms
RED & YELLOW	4.3Vdc	0 ohms
BLACK & YELLOW	Voltage will fluctuate from .6Vdc – 1.4Vdc (Fluctuation gets faster as you increase your heart rate)	Ohms will fluctuate from 9.85M ohms – 20M ohms. (Fluctuation gets faster as you increase your heart rate)

If the heart rate receiver **is not** working properly with your pulse simulator or chest strap, this is what you should see on your voltmeter:

TABLE C

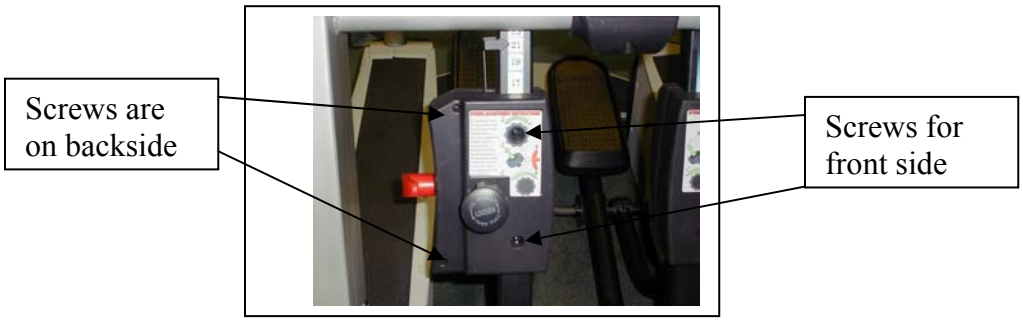
WIRES	Vdc	OHMS
RED & BLACK	5Vdc	0 ohms
RED & YELLOW	4.2Vdc	0 ohms
BLACK & YELLOW	.6Vdc (reading will be steady)	9.85M ohms (reading will be steady)

If you get the readings from **TABLE B** and the upper display board still doesn't show a heart rate output then the upper board is bad and needs to be replaced.

REMOVAL AND REPLACEMENT OF COMPONENTS

CRANK ARM (Removal):

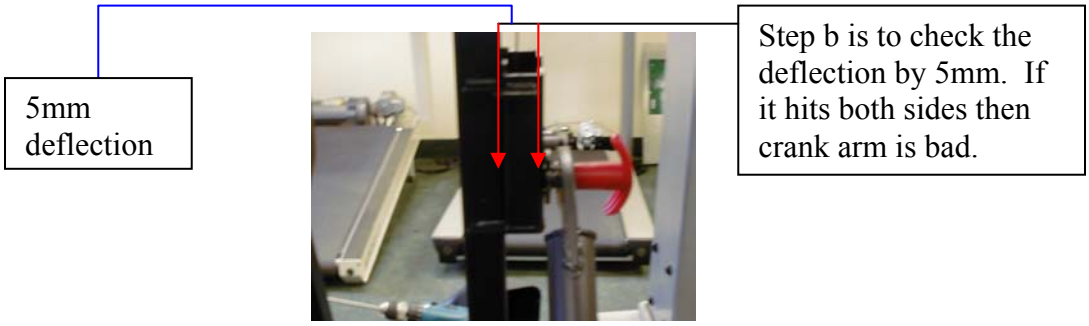
1. Take the set screw out for the adjustment knob completely out and then remove the adjustment knob by turning it counterclockwise.
2. Remove the red handle by turning it counterclockwise.
3. Take out all the phillips head screws for the stride adjustment cover. (See Figure A)
4. Remove (4) #6 Socket Head Caps screws at the bottom where crank arm meets the crank.



(Figure A)

CRANK ARM (Install):

1. Follow the reverse of removal instructions to install new crank arm but don't install the stride adjustment cover.
2. To set up crank arm:
   a) Tighten the red handle at the top of the assembly. Then turn the red handle counterclockwise 5.5 turns.
   b) Rotate the crank assembly and watch the top of the crank to see if it hits up against the red handle and stride bar (See Figure B).
   c) If not or little movement then tighten the red handle down and proceed to step d. If it hits both sides then you will have to replace the crank arm.
   d) Install stride adjustment cover.
   e) Install stride adjustment knob and then set screw.



(Figure B)

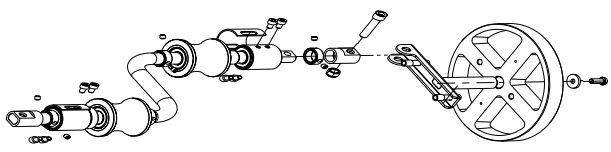
CRANKSHAFT REMOVAL & REPLACEMENT INSTRUCTIONS

Tools Required:
10mm Allen Wrench
6mm Allen Wrench
2.5mm Allen Wrench
10mm Socket & Socket Wrench
Phillips Head Screw Driver
Rubber Mallet

Instructions:

1. Remove the crankshaft covers on both sides by removing the two Phillips head screws located on the covers.
2. Using a 6mm Allen wrench, remove the eight screws that hold both of the crank arms in place on the crankshaft.
3. Using a 10mm Allen and socket wrench, remove the two main crankshaft bolts located on either side of the crankshaft and remove.
4. Using a 2.5mm Allen wrench, loosen the two setscrews that hold the retaining collar in place. Using your rubber mallet gently tap off and remove the retaining collar from the crankshaft.
5. Slide out and remove the crank bearing and the plastic collar from the crankshaft.
6. Using your rubber mallet, gently tap the rubber rollers downward to remove them from the crank arm.
7. Using the 2.5mm Allen wrench, loosen the two setscrews that hold the last retaining collar on the crankshaft. Using your rubber mallet gently tap off and remove the retaining collar from the crankshaft.

REVERSE PROCESS 7 THRU 1 TO INSTALL THE NEW CRANKSHAFT.



ELLIPTIMILL DRIVE BELT REMOVAL & REPLACEMENT INSTRUCTIONS

Tools Required:

4mm Allen Wrench
6mm Allen Wrench
10mm Allen Wrench & Socket
14mm Allen Wrench
17mm Allen Wrench & Socket

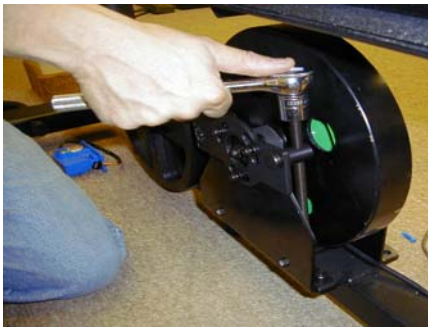
STEP 1

Using a 10mm allen socket wrench, loosen and remove the crank arm bolt and slide out the crank arm

STEP 2

Using a 4mm allen wrench, loosen all three Allen bolts on the tensioning bracket

STEP 3



Using a 17mm socket wrench, loosen the tensioning bolt

STEP 4

Remove all three allen bolts and Remove the tensioning bracket

STEP 5 Using a 10mm socket wrench, loosen and remove both 4 ½ inch magnetic flywheel bracket bolts	**STEP 6** Using a 6mm allen wrench, loosen and remove the two bottom bolts
STEP 7 Using a 14mm socket wrench, loosen and remove the nut and remove the magnetic flywheel bracket	**STEP 8** Remove the old drive belt and replace it with the new belt.

NOTE: FOLLOW THE STEPS IN REVERSE TO REASSEMBLE THE ELLIPTICAL.

PLEASE CALL LANDICE TECHNICAL
SERVICE 1-800-526-3423
FOR FURTHER ASSISTENCE

ELLIPTIMILL BEARING REMOVAL & REPLACEMENT

Tools Required:

4mm Allen Wrench
6mm Allen Wrench
10mm Allen Wrench & Socket
17mm Allen Wrench & Socket
Hammer & Punch
C-Clamp

STEP 1

Using a 10mm allen socket wrench, loosen and remove the crank arm bolt and slide out the crank arm

STEP 2

Using a 4mm allen wrench, loosen all three allen bolts on the tensioning bracket

STEP 3

Using a 17mm socket wrench, loosen the drive belt tensioning bolt

STEP 4

Remove the drive belt from the drive pulley

STEP 5

Using a 6mm allen socket loosen and remove the drive pulley bolt

STEP 6

Remove the drive pulley from the elliptical

STEP 7

Using a hammer and a flat head set punch knock out the bearings on either side of the elliptical

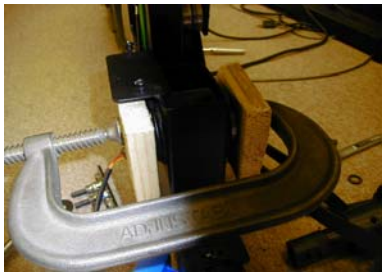
STEP 8

Using a fine grit piece of sandpaper clean off any residue left in the hub of the elliptical
Apply a little grease on the hub of the elliptical and bearing

STEP 9

Using a hammer gently tap both bearing in place on either side of the elliptical

STEP 10

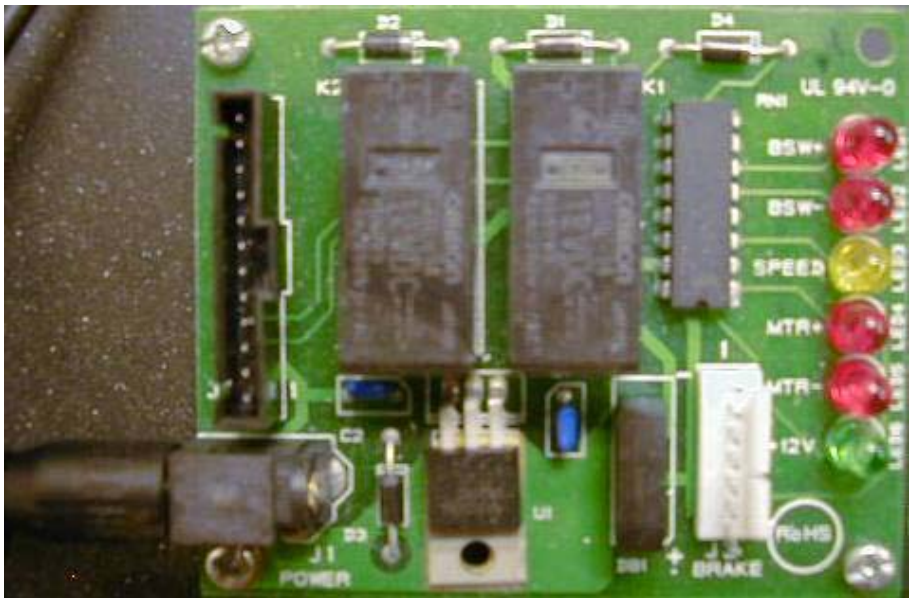


Using a clamp and two pieces of wood press the bearings back into place

NOTE: FOLLOW THE STEPS IN REVERSE TO REASSEMBLE THE ELLIPTICAL

PLEASE CALL LANDICE TECHNICAL SERVICE 1-800-526-3423

LED CONFIGURATIONS: RELAY BOARD



The relay board is designed with diagnostic LED lights. The LED's are color coded according to their specific function. Green indicates should always be ON when power is supplied to the elliptical. Here is a list of each LED and whit it signifies:

+12V (green) – The +12V LED illuminates when DC voltage is being supplied to the relay board. The power pack takes the AC voltage from the wall, converts it to DC voltage and sends it to the relay board.

BSW+ & BSW- (red) – These LED's tell you if the upper board is sending a signal to close the relays on the board. When the LED lights, it tells you that the coil on the relay is being energized.

MTR+ & MTR- (red) – These LED's illuminate when DC voltage is being supplied to the brake motor. When this LED lights, it tells us that the relay has energized and sending DC voltage to the brake motor.

SPEED (yellow) – The speed LED flashes on and off (relative to rotation of the drive pulley) when the speed sensor is operating properly.

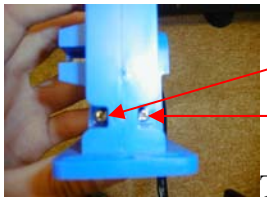
Calibration Instructions for Brake Controller

Tools Needed: Phillips Head Screw Driver.

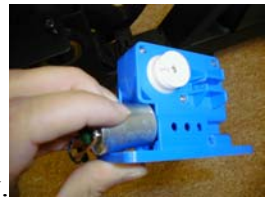
Instructions:

1. Release the brake cable from the controller. To do so, pull on the brake cable to give it some slack, unwrap it around the white brake controller knob and pop it out of the notch.

2. Remove the two black phillip's head bolts that hold the brake controller to the bracket on the machine.



3. Take the two screws out for the dc motor that's located at the base of the brake controller. Then slide the dc motor out of the assembly.



4. **ENTER DIAGNOSTIC MODE:**
   - **ON ET's: Press MENU & START simultaneously.**
   - **ON CT's: Press NEXT & START simultaneously.**
   - **ON PT's: Press DISPLAY & START simultaneously.**

5. Set the effort level screen to 20.0

6. Turn the white knob for the pot counterclockwise until the reading in the display reads 20.0. ****(See Fig. A)****
7. Insert the brake cable back into the notch on the white knob, wrap it around in a counterclockwise direction from the notch and bolt it back down to the machine ****(See Fig. B)****

NOTE: YOU MAY HAVE TO ADJUST THE KNOB ON THE BRAKE CONTROLLER AS WELL AS THE BRAKE CABLE TO GET THE TRUE RESISTANCE. HERE'S HOW:

1. First, bring the resistance down from 20 to 1 and make sure the white nylon piece touches the bottom of the green part of the brake system **(See Fig. C)**. If it touches, then it's set to effort level 1.

2. Then bring it back to effort level 20 and make sure the white nylon piece touches the top of the brake system. If so then level 20 is set.

3. After this is performed, check to make sure that there is no slack on the brake cable. If the cable has some slack, then loosen the locking nut and turn the turnbuckle in a clockwise direction to get rid of the slack. If the brake cable is too tight then turn the turnbuckle counterclockwise to give it some slack **(See Fig. D)**.

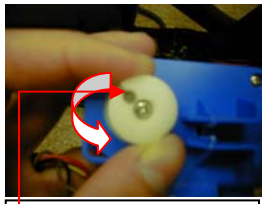


Figure A
Turn the knob counterclockwise to set the brake control setting. Use the notch to know which direction to turn.

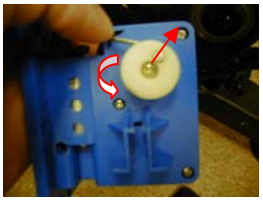


Figure B
Once the brake cable is inserted into the notch on the brake assembly, rotate the brake cable in a counter clockwise direction Make sure notch lines up with screw See arrow. If not then take out the screw in the center of the knob and reposition it and screw it back down

Figure C
Effort Level #1 / Effort Level# 20

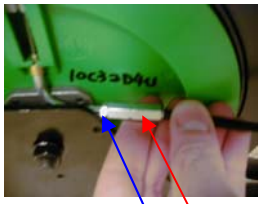
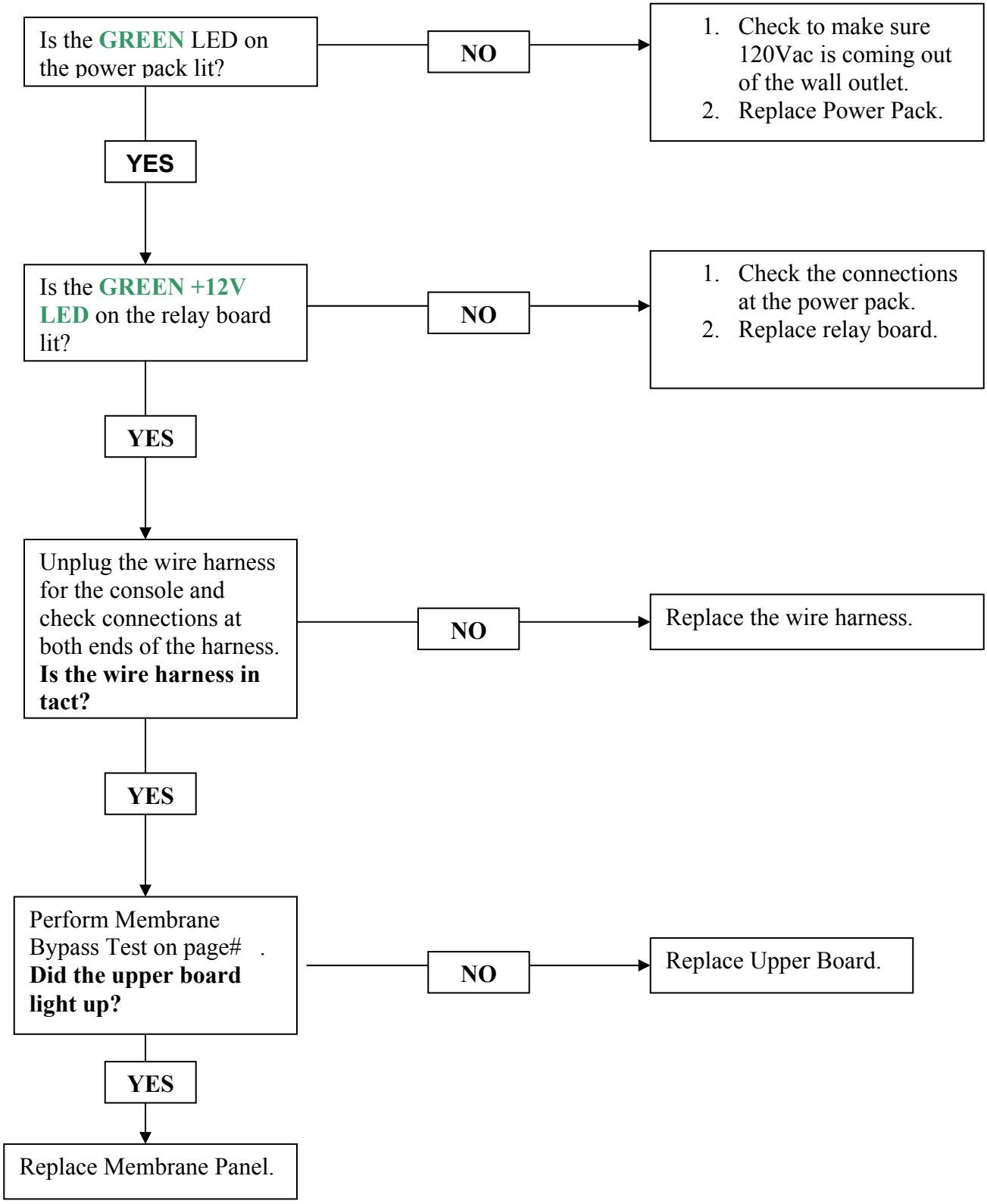
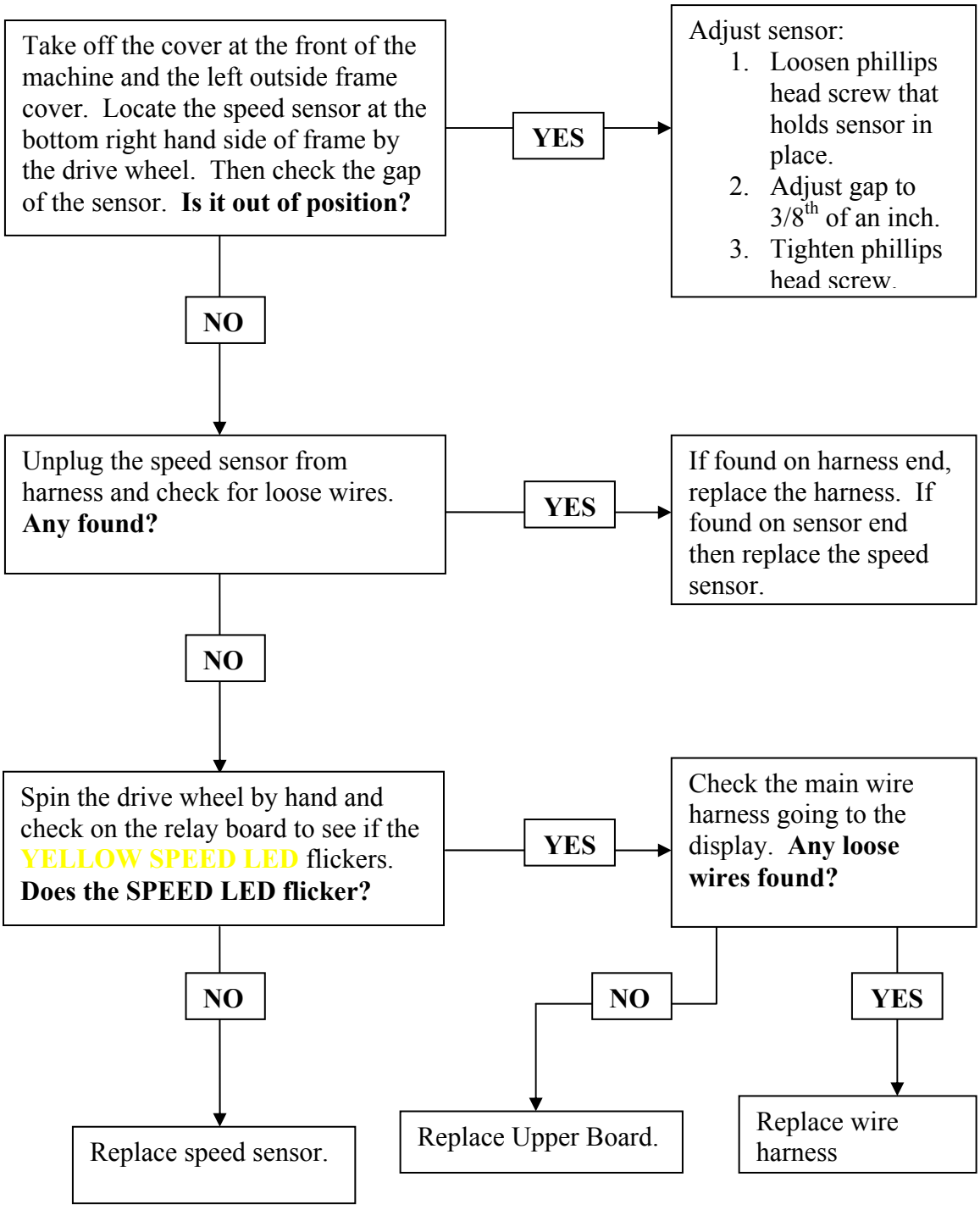


Figure D
Loosen the **locking nut** for the turnbuckle. To remove slack, turn the **buckle** clockwise. To obtain slack turn it counterclockwise

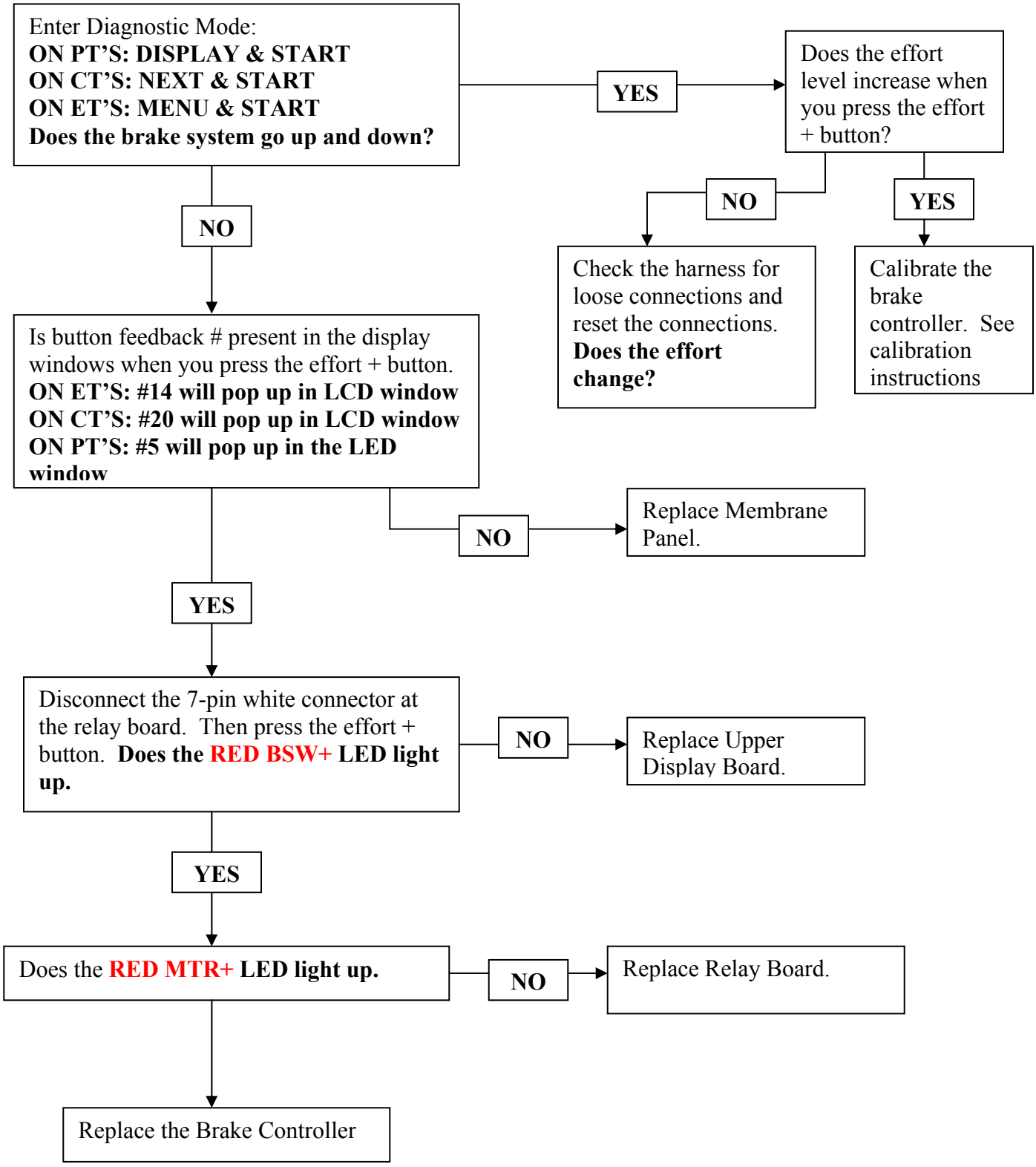
PRESS START, MACHINE WONT TURN ON, NO LIGHTS TO THE UPPER DISPLAY


Is the GREEN LED on the power pack lit?
NO
1. Check to make sure 120Vac is coming out of the wall outlet.
2. Replace Power Pack.
YES
Is the GREEN +12V LED on the relay board lit?
NO
1. Check the connections at the power pack.
2. Replace relay board.
YES
Unplug the wire harness for the console and check connections at both ends of the harness. Is the wire harness in tact?
NO
Replace the wire harness.
YES
Perform Membrane Bypass Test on page# . Did the upper board light up?
NO
Replace Upper Board.
YES
Replace Membrane Panel.

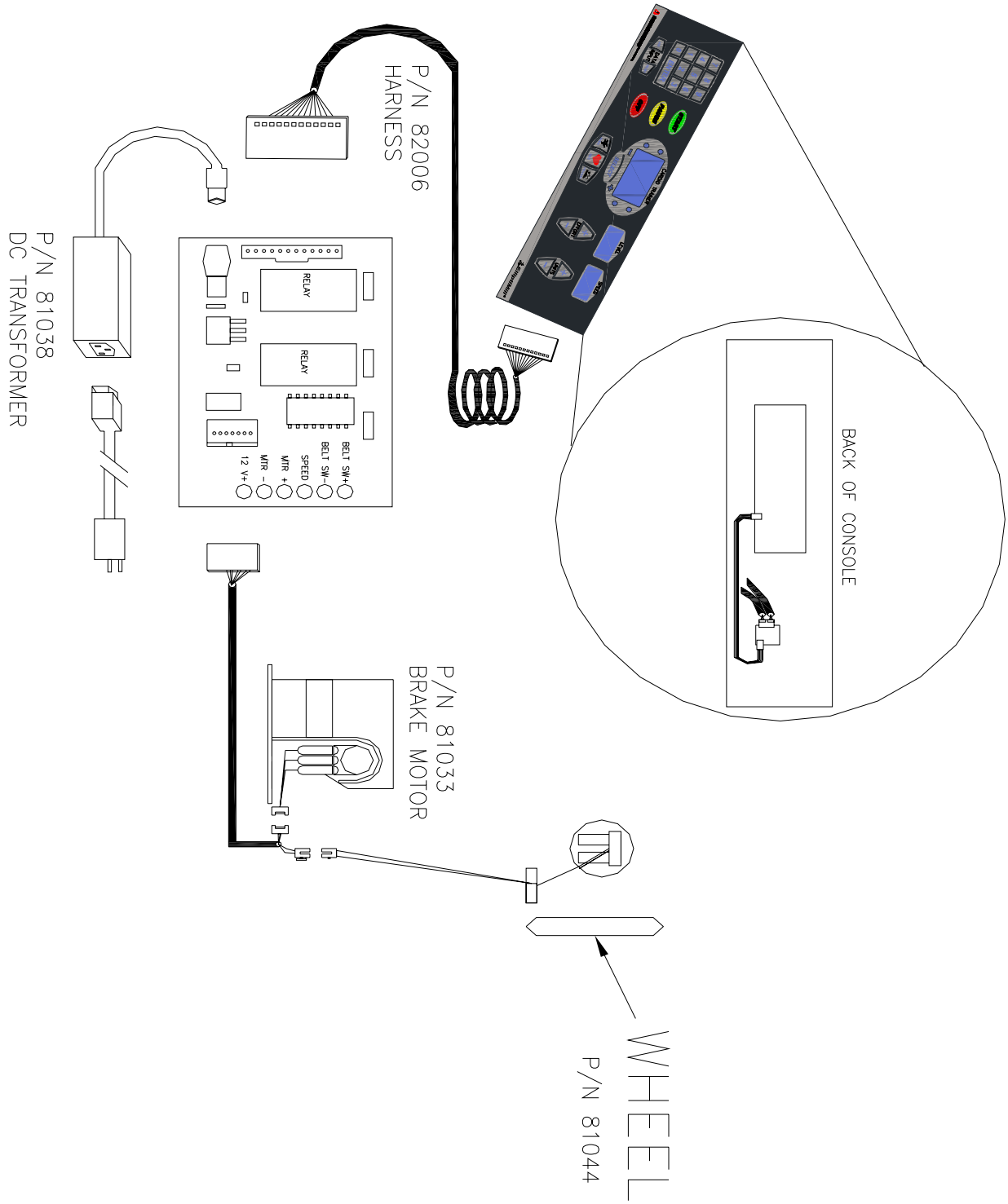
DISPLAY LIGHTS UP, START TO USE THE MACHINE BUT THERE IS NO SPEED FEEDBACK IN SPEED WINDOW.


Take off the cover at the front of the machine and the left outside frame cover. Locate the speed sensor at the bottom right hand side of frame by the drive wheel. Then check the gap of the sensor. Is it out of position?
YES
Adjust sensor:
1. Loosen phillips head screw that holds sensor in place.
2. Adjust gap to 3/8th of an inch.
3. Tighten phillips head screw.
NO
Unplug the speed sensor from harness and check for loose wires. Any found?
YES
If found on harness end, replace the harness. If found on sensor end then replace the speed sensor.
NO
Spin the drive wheel by hand and check on the relay board to see if the YELLOW SPEED LED flickers. Does the SPEED LED flicker?
YES
Check the main wire harness going to the display. Any loose wires found?
NO
NO
YES
Replace speed sensor.
Replace Upper Board.
Replace wire harness

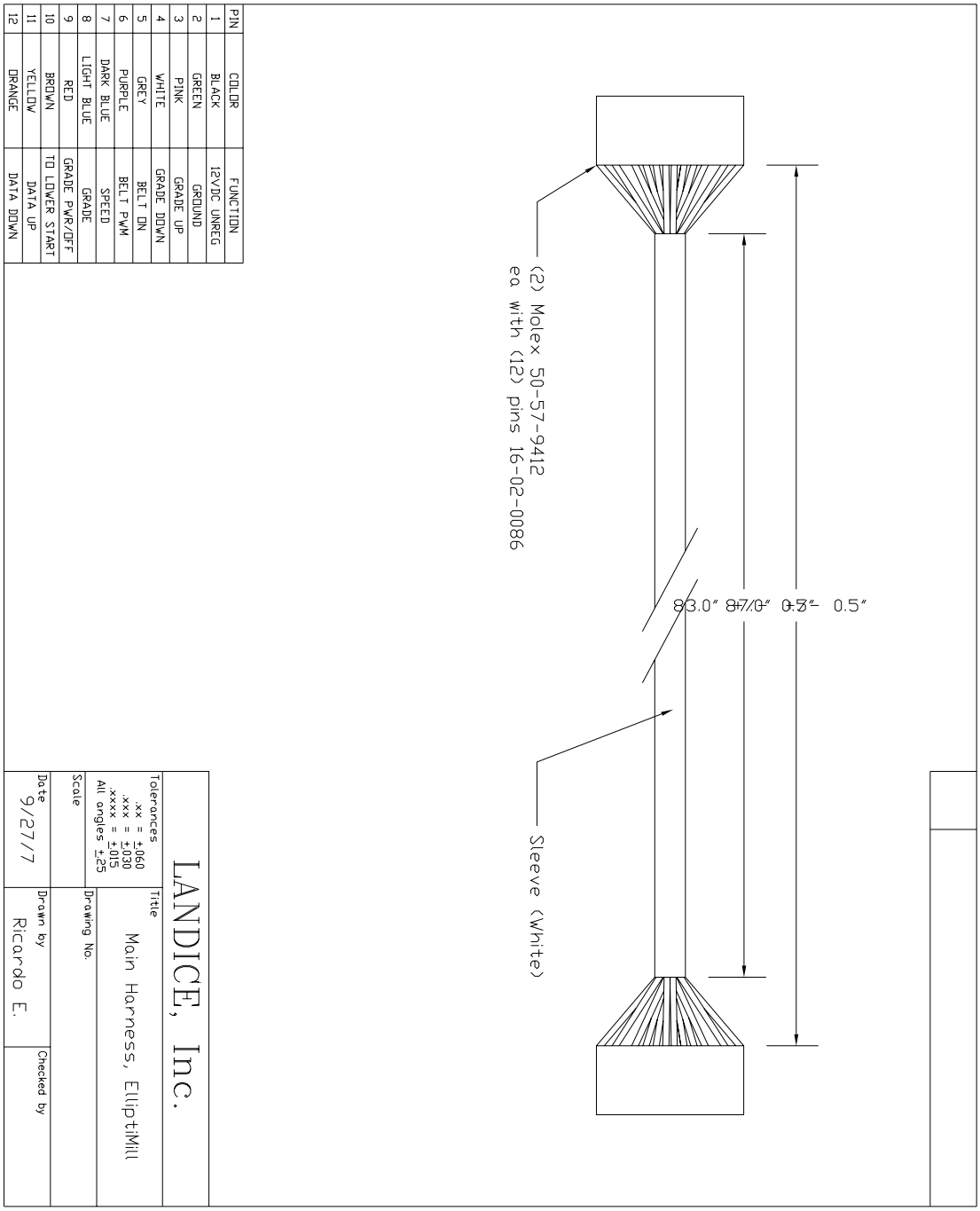
PRESS START, NO RESISTANCE, ERROR DETECTED IN BRAKE CONTROLLER


Enter Diagnostic Mode:
ON PT'S: DISPLAY & START
ON CT'S: NEXT & START
ON ET'S: MENU & START
Does the brake system go up and down?
YES
Does the effort level increase when you press the effort + button?
NO
YES
NO
Check the harness for loose connections and reset the connections. Does the effort change?
Calibrate the brake controller. See calibration instructions
Is button feedback # present in the display windows when you press the effort + button.
ON ET'S: #14 will pop up in LCD window
ON CT'S: #20 will pop up in LCD window
ON PT'S: #5 will pop up in the LED window
NO
Replace Membrane Panel.
YES
Disconnect the 7-pin white connector at the relay board. Then press the effort + button. Does the RED BSW+ LED light up.
NO
Replace Upper Display Board.
YES
Does the RED MTR+ LED light up.
NO
Replace Relay Board.
Replace the Brake Controller

ELLIPTIMILL WIRE SCHEMATIC



ELLIPTIMILL MAIN HARNESS



PIN	COLOR	FUNCTION
1	BLACK	12VDC UNREG
2	GREEN	GROUND
3	PINK	GRADE UP
4	WHITE	GRADE DOWN
5	GREY	BELT DN
6	PURPLE	BELT PWM
7	DARK BLUE	SPEED
8	LIGHT BLUE	GRADE
9	RED	GRADE PWR/OFF
10	BROWN	TO LOWER START
11	YELLOW	DATA UP
12	ORANGE	DATA DOWN

LANDICE, Inc.

Tolerances
.xx = ±.060
.xxx = ±.030
.xxxx = ±.015
All angles ±.25

Title: Main Harness, EliptiMill

Scale

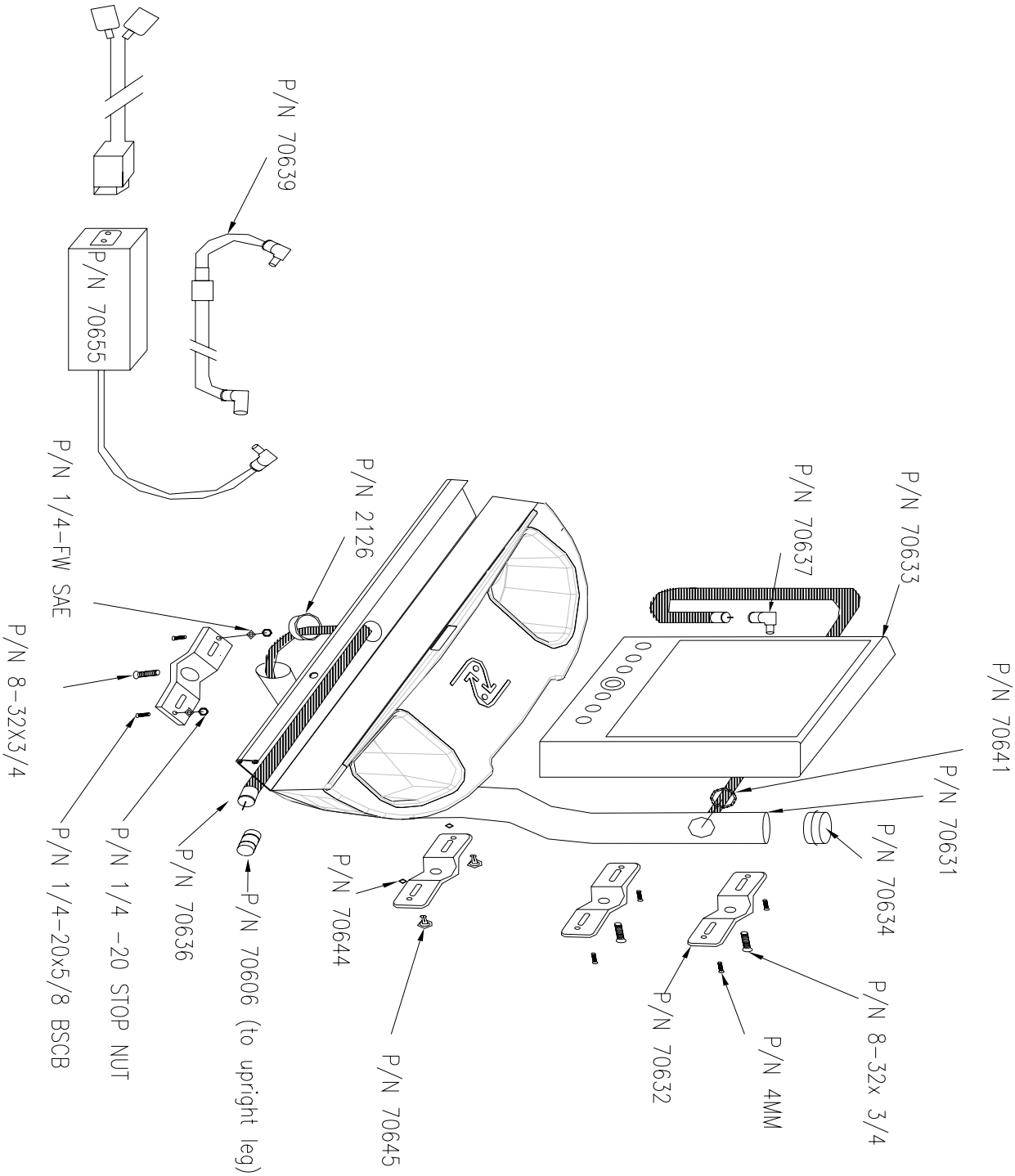
Drawing No.

Date: 9/27/7

Drawn by: Ricardo E.

Checked by

LVS 2ND GENERATION FOR ELLIPTIMILL



LVS2 RETROFIT INSTRUCTIONS

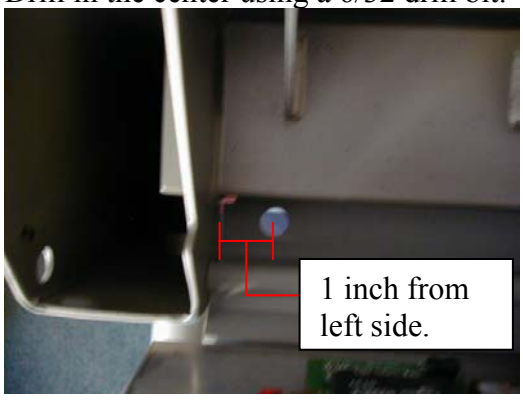
TOOLS NEEDED:

- 6/32 drill bit (starter bit).
- 3/8th drill bit.
- ½ inch drill bit.
- Tape measure, ruler, or t-square.
- Drill
- Fine grit sand paper to remove burr's.

1. Take the upright end caps and upper console off of the control panel.

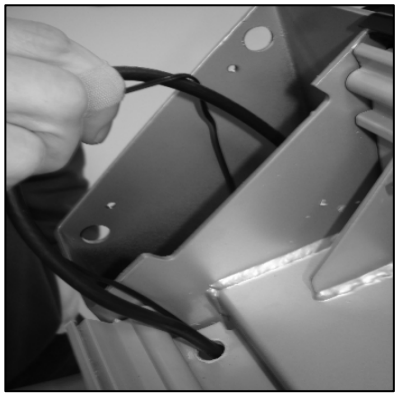
2. Measure 1 inch from the left side of the control panel and mark it with a pencil to drill your hole.

3. Drill in the center using a 6/32 drill bit. Then drill the hole bigger using a ½ inch drill bit.



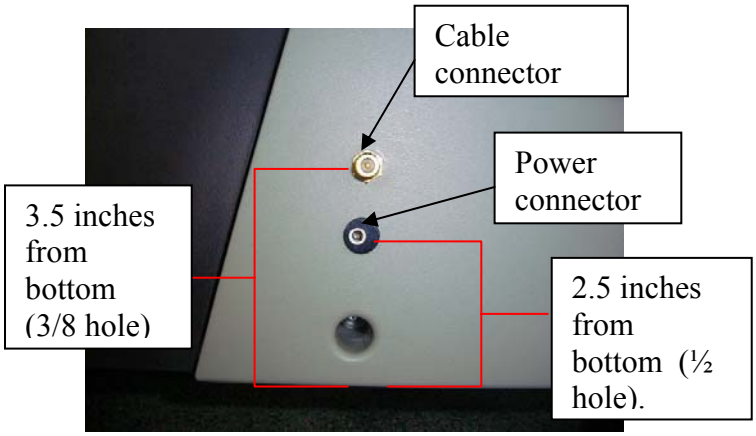
4. Now that you drilled out your access hole for the cable and power wires, clean of any burr's from the hole using fine grit sandpaper and run your wires thru.

5. After fishing the wires thru the access hole, slide them thru the left side upright. They will come out thru the u cut out at the bottom of the upright. (See pictures below).



6. Next take off the outer left stride cover. You will need to drill out holes for the cable & power connector's. Measure 3 ½ inches from the bottom of the stride cover, in line with the bottom left hole for the mounting screw, and mark it with a pencil to drill your hole. Use a 6/32 drill bit as a starter hole. Then drill it out using a 3/8th's drill bit.

7. Now measure 2 ½ inches from the bottom of the stride cover, in line with the bottom left hole for the mounting screw and mark it with a pencil to drill your hole. Use a 6/32 drill bit as a starter hole. Then drill it out using a ½ drill bit. Refer to the picture below for steps 6 & 7.



8. Remount the stride cover back onto the elliptimill and make your connections. Turn the LVS DVD player on and test it out.

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